AMERICAN GAS ASSOCIATION MONTHLY

March 1928

Volume X Number 3

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By C. D. WILLIAMS

Gas Heats Chicago Churches Economically
By H. B. JOHNS

Dallas to Be Center of Natural Gas Interest

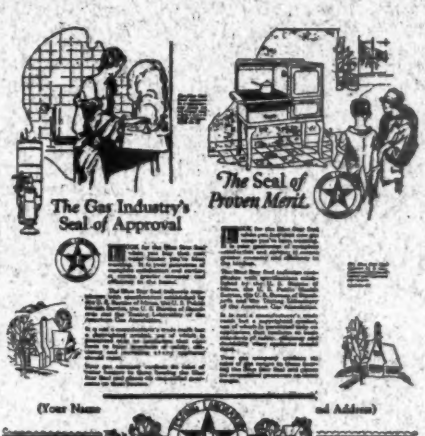
Facts Concerning the Life of Pipe
By R. G. GRISWOLD

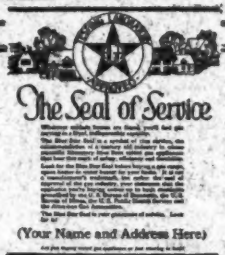
Plans for Dallas Exhibit are Announced

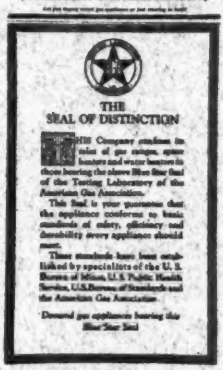
Statistics—Their Relation to Management
By PAUL RYAN

Distribution Engineers to Meet at Chicago

Predetermining Fire Insurance Rates for New Construction
By HARRY ANDERSON







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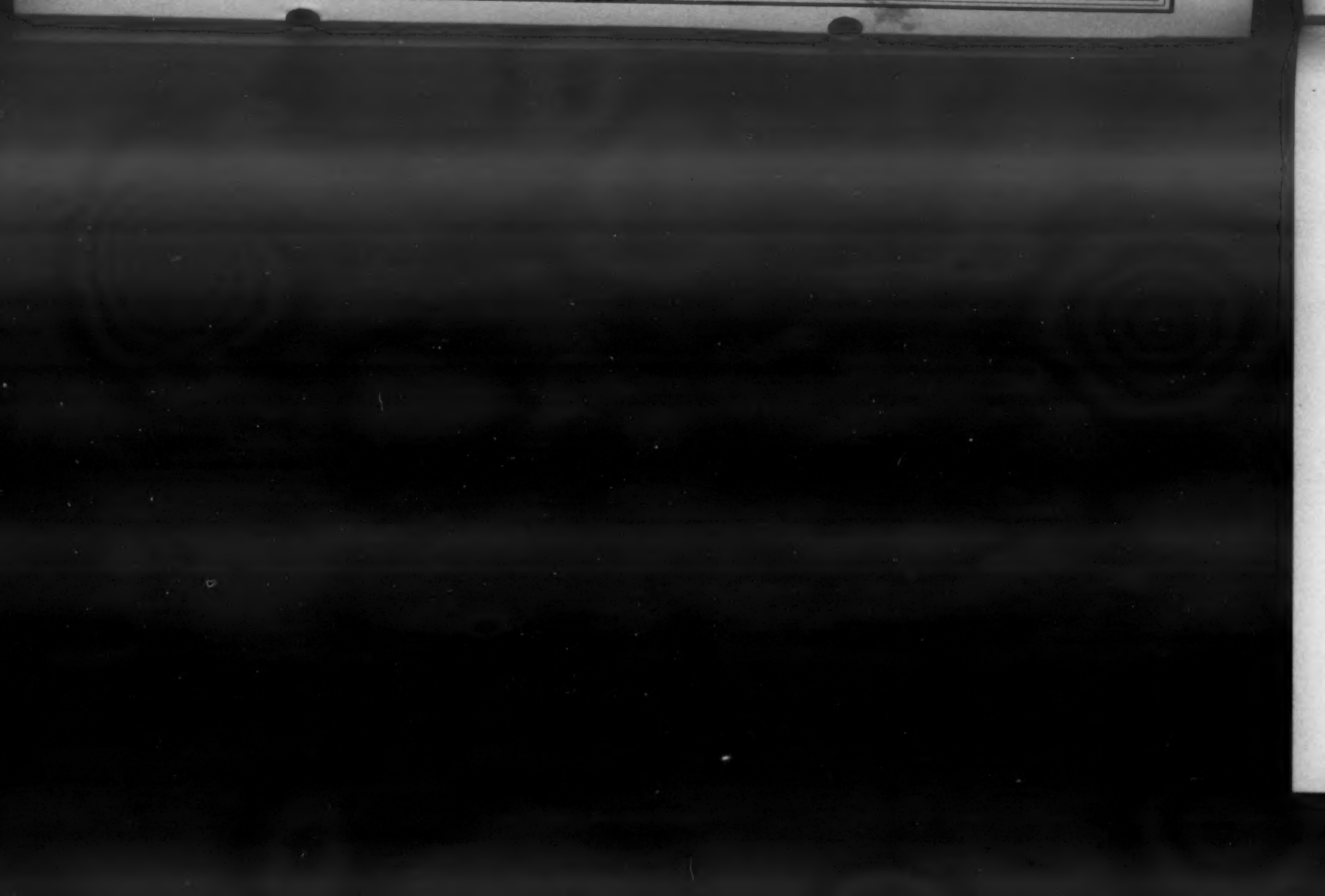

AMERICAN GAS ASSOCIATION MONTHLY

420 LEXINGTON AVENUE, NEW YORK, N. Y.

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The

Natural Gas Dept.

of the

AMERICAN GAS ASSOCIATION — LIGHT · HEAT · POWER — INCORPORATED 1918

will meet for its

Annual Convention

at

Dallas, Texas

May 7 to 10

SUBSCRIPTION RATE — *$3.00 PER YEAR*

For statements and opinions contained in papers and discussions appearing herein, the Association does not hold itself responsible.

Entered as Second Class Mail Matter at the Post Office at Brattleboro, Vermont, February 10th, 1922, under the Act of March 3, 1879.

Our Own Who's Who

© Samuel Insull

XXXIV
Samuel Insull

BORN in England, 1859. Educated in private schools; Sc.D. Union College; LL.D., Northwestern Univ.; LL.D., Notre Dame Univ. Married, 1899; one son, Samuel Insull, Jr., public utility executive. Came to United States in 1881 as private secretary to Thomas Edison. Had full charge of Edison's interests for many years, representing him in establishment of Electric Tube Co., Edison Lamp Co., and Edison Machine Works; in 1886 established Schenectady Works for Edison. In 1889 was vice-president of the newly formed Edison General Electric Co.; in 1892 for short time was vice-president of the newly formed General Electric Co., resigning to go to Chicago as President of Chicago Edison Co. Pioneered in many modern phases of electricity and gas supply development, such as regulated monopoly, massing production and interconnection, low rates for service, earning public good will, and economy of operation by large units. In 1919 took presidency of The Peoples Gas Light and Coke Co., which was then on verge of bankruptcy and otherwise run down. Within three years it was restored to physical and financial health and has since been brought to high rank as a sound and successful institution. In doing this, utilized exactly same organization and personnel, except two, that were operating before he took charge; resurrecting and regenerating done by applying principles, policies, inspiration, and guidance rather than by putting new men on the job. Directs policies and supervises management of utilities serving a population (in 1930) of about 9,000,000, and which represents an investment of upwards of $1,000,000,000 by more than 250,000 security-holding investors. Active in movement, dating from 1921, to preserve Grand Opera for Chicago. Founded Franklin Medal, 1914, and Insull Medal, 1922. In 1917 and 1918 devoted himself to war work; chairman of State Council of Defense of Ill., organizing state-wide team work for winning the war. Is a most enthusiastic and aggressive believer in the opportunities for gas as the handmaiden of industry.

AMERICAN GAS ASSOCIATION MONTHLY

Vol. X MARCH, 1928 No. 3

Dallas to Be Center of Natural Gas Interest

From May 7 to May 10

AN INDUSTRY that is progressing, that is operating efficiently, and that is growing at a healthy rate will meet for its annual convention at Dallas, Texas, May 7 to 10. A program of committee reports and addresses on important subjects by prominent men will, with the exhibition of appliances and equipment, constitute a convention week that will suitably climax a year of progresss by the natural gas industry.

The Dallas convention of the Natural Gas Department of the American Gas Association bids fair to be the biggest and most important meeting ever held by this important branch of the nation's gas industry. Meeting for the first time since the amalgamation with the A. G. A., the natural gas men will be treated to a program that will cover every major subject of present-day significance.

While it is too early to announce even a tentative program, meetings of convention committees have been held, and at this date there is definite assurance that every attempt is being made to make this a record-breaking convention in quality of the program, size of the exhibition, and attendance.

The Committee on Papers, consisting of L. K. Langdon, chairman, John H. Maxon, and Frank L. Chase, is actively at work on this phase of the meeting, and doubtless there will be announcement of tentative program in the next issue of the MONTHLY.

Activities and plans of the Exhibition Committee are mentioned elsewhere in this issue. The Exhibition will be open on Monday, May 7. Convention sessions will open at 10 a.m., Tuesday, Wednesday, and Thursday, and close at noon. Afternoon sessions will open at two. (No Thursday p.m. session.)

The Committee on Arrangements, with H. C. Morris as chairman, has had one meeting, and reports that excellent progress is being made. It has been definitely

decided that there will be no registration fee this year.

ENTERTAINMENT

Suitable entertainment features are being arranged. These will be in the form of a smoker and vaudeville on Tuesday evening, May 8, and annual banquet on May 9. H. C. Morris and F. M. Lege, Jr., are the committee handling the smoker, and L. B. Denning and E. R. Brown the committee in charge of the banquet.

Luncheon will be served in the rear of the Manufacturers Building (housing the exhibition) free to all members on Monday, Tuesday, and Wednesday.

Members are urged to make their hotel reservations direct with the hotels. The following is a list of hotels in Dallas:

Adolphus, Baker, Jefferson, Hilton, Southland, Scott, Waldorf, St. George, Campbell, Park, Milam, Mayfair, Texan, Cliff, Bryan, Birdwell, New Dallas, Forest Inn, Sanger Apartments, Ervington Apartments, Stoneleigh Court, Melrose Court, Argyle Apartments, Oak Lawn Inn, Dallas Athletic Club, University.

The Adolphus will be the official convention hotel.

REDUCED FARE INFORMATION

A reduction of one and one-half fare on the certificate plan will apply for those attending the meeting, and also for dependent members of their families.

The following directions are submitted for guidance:

1. Be sure when purchasing going tickets to request a CERTIFICATE. *Do not make the mistake of asking for a "receipt."*

2. Present yourself at the railroad station for ticket and certificate at least 30 minutes before departure of train on which you will begin your journey.

3. *Certificates are not kept at all stations.* If you inquire at your home station, you can ascertain whether certificates and through tickets can be obtained to place of meeting. If not obtainable at your home station, the agent will inform you at what station they can be obtained. You can in such case purchase a local ticket to the station which has certificates in stock, where you can purchase a through ticket and at the same time ask for and obtain a certificate to the place of meeting.

4. Immediately on your arrival at the meeting present your certificate to the endorsing officer, as the reduced fare for the return journey will not apply unless you are properly identified as provided for by the certificate.

5. It has been arranged that the Special Agent of the Carriers will be in attendance on May 7, 8, 9 and 10 to validate certificates. If you arrive at the meeting and leave for home again prior to the Special Agent's arrival, or if you arrive at the meeting later than May 10, after the Special Agent has left, you cannot have your certificate validated and consequently you will not obtain the benefit of the reduction on the home journey. *No refund of fare will be made on account of failure to obtain a proper certificate or on account of failure to have the certificate validated.*

6. So as to prevent disappointment, it must be understood that the reduction on the return journey is not guaranteed, but is *contingent on an attendance of not less than 250 members of the organization at the meeting and dependent members of their families,* HOLDING REGULARLY ISSUED CERTIFICATES OBTAINED FROM TICKET AGENTS AT STARTING POINTS, showing payment of regular one-way adult tariff fares of not less than 67 cents on going journey.

7. The selling dates for purchase of going tickets are May 3-9 with May 14 as final limit of return with the exceptions of the following territories:

Selling dates April 30-May 5. Return limit May 14.

British Columbia, California, Idaho, Nevada, Oregon, Washington and Winnipeg.

Selling dates May 2-8. Return limit May 14.

Iowa, Minnesota, Montana, Nebraska, Northern Michigan, North Dakota, South Dakota, Wisconsin, Wyoming, Massachusetts, Connecticut, Rhode Island, Vermont, New Hampshire, Maine and Manitoba, Canada.

R. G. Munroe Presents Address on Insulation

ROY G. MUNROE, of the Public Service Company of Colorado, Denver, Col., delivered an address on "Insulation" at the 25th annual meeting of the Mountain States Lumber Dealers Ass'n, at Denver on January 12, 13, and 14.

Mr. Munroe explained the interest of gas companies in insulation, and carefully outlined the activities of the Commercial Section committee on insulation.

In Memoriam

Wm. B. Clark, Eastland, Texas.

S. S. Robertson, Ruud Mfg. Co., Pittsburgh, Pa.

Plans for Dallas Exhibit Are Announced

Record-Breaking Show of Equipment and Appliances Planned for Convention at Dallas, May 7-10

PLANS have been announced for one of the largest, if not the largest, exhibitions of equipment and appliances to be held in conjunction with the annual convention of the Natural Gas Department of the A. G. A. at Dallas, Texas, May 7 to 10.

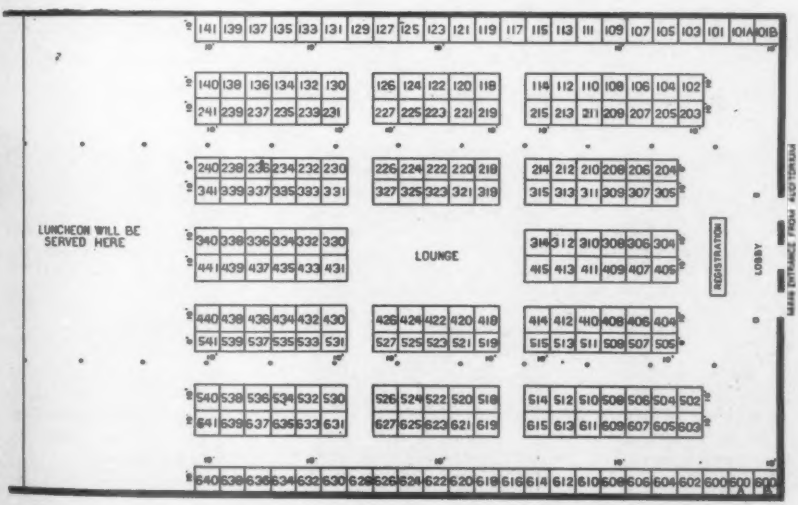
Manufacturers who have learned the value of exhibiting at natural gas conventions received the announcement that the 1928 convention would be held at Dallas with great interest and favor. This city, the center of the natural gas development of the Southwest, offers exhibitors an opportunity which has doubtless never been equalled before in the long history of natural gas meetings.

Dallas gives appliance manufacturers the chance to exhibit in a territory which at present is witnessing intensive building development. The equipment manufacturers will find that plant extensions are being made at rapid rate, and parallel to both of these developments is the increasing industrial activity of the section, which will attract the manufacturers of industrial gas equipment.

It is felt that the 1928 exhibition will win wide favor with natural gas men from every branch of the industry all over the country. At Dallas there will be offered a most complete showing of everything that the manufacturers have of interest to the industry. The leaders will show the newest, most efficient, and best line of appliances and equipment.

The Exhibition Prospectus has been in the hands of the manufacturers for some time, and allotment of space will be made March 15. Reservations for space are being received daily, and manufacturers are requested to place their orders for space early to avoid disappointment.

The Exhibition Committee is com-



Proposed layout of exhibit hall for Natural Gas Department Convention at Dallas, Texas, May 7 to 10

posed of the following: H. L. Montgomery, Bartlesville, Okla., chairman: C. C. Cartwright, Ft. Worth, Texas; T. C. Clifford, Pittsburgh, Pa.; H. N. Greis, Tulsa, Okla.; A. W. Leonard, Tulsa, Okla.; E. F. Schmidt, Dallas, Tex.; H. Leigh Whitelaw, New York, N. Y., and C. W. Berghorn, A. G. A. Headquarters.

As of February 23, the following manufacturers have applied for space:

Spencer Thermostat Co., Lattimer-Stevens Co., Pittsburgh-Equitable Meter Co., Sprague Meter Co., Ridge Tool Co., Bryant Heater & Mfg. Co., M. B. Skinner Co., Geo. M. Clark Div. of American Stove Co., General Gas Light Co., Continental Supply Co., Westcott Valve Co., Sala Heater & Mantel Co., S. R. Dresser Mfg. Co., Connersville Blower Co., Arco Co., Mueller Co., Reliable Stove Co. Div. of American Stove Co., National Tube Co., Estate Stove Co., Clark Bros. Co.

Gas Company Uses Smoke Abatement Stickers

New York Consolidated Has Utilized More Than Two and a Half Million Stickers in Few Months

TWO and one-half million stickers, carrying a message of smoke abatement, have been used over a short period of time by the Consolidated Gas Company of New York.

The distribution of the stickers has not been limited to the company and its affiliated companies, but has included many civic and health organizations in Greater New York. The Department of Health of the City of New York has placed a preliminary order with the company for 10,000 stickers, and it is felt that this is but the start of a campaign to rid New York of its smoke pall.

As worked out by the Consolidated Gas Company, the sticker plan consists of the distribution and use of two stickers. The company uses one with the wording "Free New York from Smoke—Use Gas the Smokeless Fuel." The sticker with the words "Free New York from Smoke" is the one which is offered to civic and other interested groups.

The sticker "USE GAS—the Smokeless Fuel" is one which the American Gas Association will use.

The price of the stickers varies from $3.50 to $5 a thousand, depending on the quantity ordered. Orders may be sent to Association Headquarters.

Smoke abatement stickers—left: Used by New York Company; center: Used by A. G. A.; right: Used by civic and other groups.

New England Plans Cooperative Advertising

Regional Publicity Program Is Now Up for Consideration By Leading Executives

By C. D. WILLIAMS
Chairman, New England Gas Ass'n Publicity Conference Committee

WHILE several articles on different phases of national advertising have appeared in past issues of the MONTHLY, this is the first to explain what has been done actually to launch a program of publicity on gas fuel. Mr. Williams tells us the need for regional advertising in New England, and explains what has been done to put the plan into effect.

To the editor's knowledge New England has gone further with the idea of cooperative advertising than any other section. This article is the fourth to appear on advertising. Comments and suggestions from all in the industry will be welcomed.—Editor.

FOR the past five or six weeks there has been a subject uppermost in the minds of many members of our Association—the question of co-operative advertising. Several features of a plan were discussed at the dinner meeting of the Association on December 9th. Following this a number of small conferences occurred at which the skeleton of a program was developed, and, at the present time, this has been amplified and placed in the channel of an organization leading to definite consideration on the part of the men of recognized authority in the industry in New England.

As the question of co-operative advertising bids fair just now to become a very important adjunct in the merchandising of gas, it may not be amiss to picture at this time the needs and purposes of this publicity program. The background, then, is something as follows:

As an industry we have something to sell of which the saturation point may be still far below the horizon. It is not too much to say that no one today can exactly visualize the ultimate limits and applications of our industry. No matter to what extent the engineering, the research departments are progressing towards these limits, such progress is not being made in the merchandising department. Not only are the methods used in the merchandising department sometimes those of the "country store," but there is frequently even a lack of the proper conception of merchandising needs and methods. While we have regretted the loss of one market, our lighting load, our big, young brother, the electrical industry, has come into our field like a thief in the night, and has shaken the fruit from our tree. Shall we spend any longer time regretting the loss of this market, or shall we not plant now other trees bigger than the old ones, other markets greater than the old ones? Is it not a fact that what we have to sell lends itself as much to mass distribution, public appreciation, and individual consumption as cement, as brass, as coffee, which have already, mark you, been made the subject of successful co-operative programs in their respective industries?

The tremendous successes already achieved in co-operative advertising in other industries should be a leaf in our book. These advertising campaigns have been used to defeat the dangers threatening an industry, to control public opinion, to redeem a market in the face of usurping substitutes, or to recall the confidence of buyers. Such tasks are too great for individual effort, and there is no reason why a few manufacturers or utilities should bear the cost of a campaign designed to benefit an entire industry.

Let us cite a few examples. When the brass and copper industry lost its market after the Great War, because substitutes had taken possession of that market, when all the brass and copper that could be

produced was used for munitions, that market was recaptured by co-operative advertising.

The coffee industry has organized its joint publicity bureau and secured notable results in increasing the consumption of coffee. More sensational than others was the effective co-operative advertising in the Portland Cement Association, which increased its sale of cement from 17 million to 145 million barrels in twenty years.

We have, perhaps, an industry which should lend itself more to co-operative advertising than these because ours is more fundamental. The services we have to sell are cooking, hot water heating, house heating, refrigeration, and incineration, and are more important than the building of a cement house or the plumbing of that house with brass pipe, because our services minister to the prime needs not only of the people who live in that house but everybody in the community. We have never sold this idea to the public. How, then, shall the public know that it is true? We must, in fact, do this if we shall find continued outlets for our money, our energies, and our services. With these increased outlets will go, as the merest incidental, a tremendous increase of our life blood—*Gas, The Better Fuel.*

The latest statistics indicating the progress of this idea are about as follows:

At a meeting of a group of New England gas company executives, December 30, 1927, a report was read outlining a tentative plan of co-operative publicity for the gas industry in New England.

The outline suggested comprehends the use of about fifty newspapers in forty-five cities of 15,000 population and over, employing a total lineage of approximately 30,000, comprising eighty advertisements to appear twice weekly—co-ordinated with this, concerts through radio broadcasting stations to be arranged to start in the fall, the entire program to be designed to create a greater gas consciousness on the part of the public and to set forth the benefits and comforts to be obtained from a more complete use of *Gas, The Better Fuel.*

Discussion participated in by every executive present was unanimously in favor of the appointment of a committee of the New England Gas Association to further study and work out outlines for the first groups of copy, and to report at a similar meeting to be held as soon as practical.

This committee was appointed and has prepared a tentative program including suggested copy themes, media, and areas of distribution, which were presented to some twenty or twenty-five major gas company executives of New England on January 27th. This group of executives will probably be known as the New England Gas Association Publicity Conference. It is a more or less permanent body who, it is expected, will convene several times a year in the event that the program is accepted by the industry in general, and whose functions it will be to appraise the work of the Conference Committee, the committee being charged with the carrying on of the program accepted by the conference. The Conference Committee's functions will also include co-ordination of effort with a body to be known as the Merchandising Committee, whose business will be the tying up of local gas companies' effort with the publicity program.

It is well established that newspaper advertising is effective commensurate with the amount of co-operative local effort. This may include purely local newspaper advertising, direct-by-mail activity, local sales contests, special show room displays, local street car advertising, and other efforts of similar character.

It is thought that this co-operative publicity program deals with the most important fundamental problem confronting the industry at the present time. The measure of its success will be the measure of enthusiastic co-operation accorded to

(Continued on page 182)

St. Gregory's Church

St. Luke's Lutheran Church

Bethel Lutheran Church

Gas Heats Chicago Churches Economically

Super-Fuel Proves Its Superiority Over Other Fuels In Three Windy City Churches

By H. B. JOHNS
Manager, Heating Division, The Peoples Gas Light and Coke Co., Chicago, Ill.

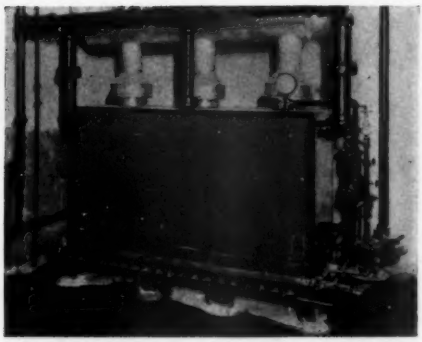
ONE of the most promising fields for gas space heating being developed in Chicago is the heating of churches. Although as yet it is small and comparatively new, it should grow rapidly. At the present time there are three churches in Chicago being heated with gas-fired central heating plants. Each of these has been in use for more than one heating season and in that time has yielded some surprisingly satisfactory results.

A feature of the use of gas in churches is that the additional space may be put to useful purposes. From the view shown of the basement of the Bethel Lutheran Church it can readily be seen that this available space is being utilized. The basement is being used for social functions and for the preparation of food. If a coal boiler were being used, this basement could not be kept free from dirt and soot; also a portion of the space would necessarily be reserved for storage of coal and ashes. This would prevent the free use of the basement as is now enjoyed.

All of the advantages of gas heat are emphasized when churches are being considered. Churches have always been aggravated with heating problems. To heat them comfortably without waste, whenever the church was to be used, always has been a task. With the use of gas all of these troubles are overcome.

The most interesting feature of the use of gas for heating churches is the low gas consumption and, consequently, the low cost of operation. The consumption is much less than the average heating engineer, who has had no experience heating churches with gas, would surmise.

The Bethel Lutheran Church has 2673 sq.ft. of vapor radiation installed. This radiation is for heating the ground floor, as well as the auditorium. The radiation for each floor is supplied by a separate circuit and valves are installed, so that either floor can be heated separately, or both together. Hence, when only the lower floor of the church is to be used, no heat is supplied to the auditorium, and, similarly, it is possible to heat the



A close-up view of the gas boiler in the basement of the Bethel Lutheran Church, and a view of the basement showing kitchen facilities close to the heating boiler. This would not be possible with any other form of fuel-burning equipment

auditorium without supplying steam to the radiation on the ground floor.

The flexibility of the fuel combined with this well-designed heating system gives a maximum of comfort and convenience, as well as economical operating cost.

The auditorium of the church is used for services each Sunday, and space on the lower floor is used for services and social events once or twice during the week as well as on Sunday.

The cost of heating the church during the 1926-27 heating season, as is shown by the accompanying figures, was $460.06. The amount of gas consumed was 603,000 cu.ft. The calorific value of the gas was 535 B.t.u.

St. Gregory's Church is the largest of the three churches, and 5100 sq.ft. of steam radiation is installed. This church is heated up every morning until about 10:00 a.m., all day on Sundays, and usually for one or two evenings during the week. Two boilers are installed in this church—only one of which is used for the greater part of the heating season.

The cost of heating St. Gregory's Church during the 1926-27 heating season was $1550.26, resulting from a gas consumption of 2,058,600 cu.ft.

St. Luke's Church is heated with a gas-fired warm air furnace, together with a warm air heating system, using a blower for forced circulation. The heat loss in this church is calculated to be about 1,000,000 B.t.u. per hour. This is equivalent to about 4000 sq.ft. of steam radiation. The church, which consists only of the auditorium and furnace room, is used regularly for one evening service during the week and for morning and evening services on Sunday. The amount of gas used for heating this church during the 1926-27 heating season was 536,000 cu.ft., at a total cost of $408.10.

One of the cardinal features of gas as a fuel for heating, which is used to good advantage in all three of these installations, is quick response of the heating system when heat is required. This is particularly noticeable in the installation in St. Luke's Lutheran Church. Even in the cold weather the auditorium is quite comfortable a few hours after the gas is turned on.

Another feature which is doubly important in heating churches is that, with gas as a fuel, considerably less redecorating is needed than when crude fuels are used. Not only is this a benefit to the treasury of the church, but the inconvenience resulting from having a part of the church closed for redecoration is reduced to a minimum.

The cost of janitor service is, of course, considerably reduced and no money is invested in fuel storage, either

(Continued on page 184)

On the Firing Line of A. G. A. Activities

A Review of the Activities of the A. G. A. The Past, Present, and Future Months—High Spots in Brief and Otherwise

AT this writing it is evident that the first annual convention of the Natural Gas Department of the A. G. A. will be one of the most important natural gas meetings ever held. Dallas, Texas, will be the headquarters of the industry the week of May 7th, when it is expected that the largest group of natural gas men ever gathered together at one time will take active part in a program of importance and study at first hand the latest developments of manufacturers in what will be the largest exhibition ever held in conjunction with a natural gas meeting.

N. C. McGowen, chairman of the department, expects a convention that will be recorded as one of the most valuable ever held. His convention call is the forerunner of a REAL natural gas meeting—one that will be held by natural gas men, in natural gas territory.

Details of the convention are given on pages 131, 132, 133, and 134. Additional information will be given in the gas trade papers, *Natural Gas*, and other magazines and newspapers.

IMPORTANT SPRING MEETINGS

THE list of Association meetings scheduled for the spring is headed by that of the Natural Gas Department, which will meet at Dallas, Texas, May 7, 8, 9, and 10.

Other meetings scheduled to date are:

Spring Conference of Advisory Council and Executive Board—Atlantic City, N. J., June 1-2.

Distribution Conference—Chicago, Ill., April 12-13.

Production Conference—Rochester, N. Y., May 22, 23, 24.

PLAN COOPERATION WITH HOME SERVICE SUMMER COURSE AT COLUMBIA

THE Home Service Committee, Commercial Section, will again cooperate with Columbia University in a summer course designed particularly for home service directors. It is fully expected that the results next year will be even greater than they were last year, when the committee cooperated with the course for the first time.

COMPENSATION COMMITTEE OUTLINES PROGRAM

THE work of the Commercial Section Salesman's Compensation Committee will be along the following lines, according to H. E. Dexter, chairman:

Preparation of articles for publication, setting forth fundamental principles which should apply in compensating salesmen, especially referring to load building appliance sales.

Presentation of more progressive systems of compensation, and statement of results.

Studies of systems used in analogous lines of business.

General recommendations on factors which should be incorporated in any compensation schedule, and recommendations of the committee on the plan.

INDUSTRIAL GAS SPEAKERS' BUREAU REPORTS PROGRESS

THE Speakers' Bureau of the Industrial Gas Section, under the chairmanship of A. M. Apmann, of the Consolidated Gas Company of N. Y., will continue the important work which has been carried on for the past few years.

The committee has requested that all men making talks on industrial gas report the same to Association Headquarters. The name of the organization before which the speech is given, the time and place, and the name of the speaker, are especially desired to keep A. G. A. records complete.

The Committee also reports the completion of two more prepared speeches on industrial gas subjects, making a total of seven now available.

COMMITTEE ON COST OF OPERATING MOTORS PLANS TO STIMULATE GAS COMPANY INTEREST

THE Accounting Section Committee on Cost of Operating Motors, of which M. F. Reeder, of Chicago, Ill., is chairman, is undertaking a three-fold project during the present Association year. Since the Committee has already presented to the industry a classifica-

tion of accounts for motor costs which is basically sound, it is apparent that the advantages and benefits accruing from this classification should be brought to the attention of member companies.

The work will be along the following lines:

1. To ascertain definitely the amount of value of mechanical equipment of all sorts at present in use by the larger companies to indicate the value of determining cost of operation. 2. Some definite recommendations on methods to be used on distributing these costs to the job. 3. Method of allocating retirement expense.

RELATIONS WITH CUSTOMERS COMMITTEE APPOINTS SUB-COMMITTEES

THE Accounting Section Committee on Relations with Customers, R. F. Bonsall, of Baltimore, Md., chairman, announces the selection of the following subcommittees:

General Service Department, G. H. Albrecht, Baltimore, Md., chairman.

Training Employees for Public Contact Work, F. F. Schauer, Pittsburgh, Pa., chairman.

Public Relations from the Distribution Engineers' Standpoint, A. M. Boyd, Philadelphia, Pa., chairman.

SERVICES OFFERED BY COMMITTEE ON UNIFORM CLASSIFICATION OF ACCOUNTS

THE Accounting Section Committee on Uniform Classification of Accounts has been organized for the current fiscal year. This committee will necessarily devote some of its energies to the further promulgation of the desired adoption of the National Classification of Accounts for Gas Companies, in those States where such action has not, as yet, been taken.

In addition to this paramount duty, it desires that the executive and accounting men of the industry should know that its services are immediately available, upon request, to aid in the solution of intricate accounting problems, and particularly in the interpretation of the national classification.

The Committee feels that this year it is in a particularly strong position, due to the fact that among its members are two men who served continuously during the year 1920 when joint committees from the National Association of Railroad and Utilities Commissioners, the American Gas Association, and the National Electric Light Association were engaged upon the original draft of a proposed national classification.

The committee holds itself in readiness to assist any company connected with the industry, which feels the need or desirability of assistance in its accounting problems.

The members of the committee are: Harry C. Hasbrouck, Associated Gas & Electric Co., New York City; William A. Sauer, The Peoples Gas Light & Coke Co., Chicago, Ill.; James Lawrence, American Light & Traction Co., New York City; Edward Porter, The United Gas Improvement Co., Philadelphia, Pa.; R. G. Soper, Dallas Gas Co., Dallas, Texas; Wm. Schmidt, Jr., Consolidated Gas Elec. Lt. & Pr. Co., Baltimore, Md., and H. M. Brundage, Chairman, Consolidated Gas Co. of New York, New York, N. Y.

Correspondence addressed to A. G. A. Headquarters, 420 Lexington Avenue, New York City, will be forwarded to the committee for prompt attention.

OHIO MAGAZINE STRONGLY RECOMMENDS A. G. A. LABORATORY

THE January 15th issue of the *Ohio Health News* comments on the work of the American Gas Association Testing Laboratory as follows:

"The American Gas Association has laboratories located at Cleveland, Ohio, which examine the various models or types of gas heating appliances for the completion of combustion and the factor of safety. They have numerous lists of approved gas stove heaters which lists are available to interested customers. Each appliance is marked with their 'BLUE STAR SEAL OF APPROVAL.' This seal, which is about one inch in diameter is of enameled metal and is fastened to the heating appliance. Purchasers should look for this 'BLUE STAR SEAL OF APPROVAL'—a metal disk attached to each approved stove."

FALL RIVER FIRE

ON February 4, the day after the disastrous fire at Fall River, Mass., the following telegram was sent to C. C. Curtis, vice-president and manager of the Fall River Gas Works Co.:

"American Gas Association extends sincere sympathy and its expression of deep concern over your disastrous fire. If your company is in need of any engineering or other assistance in the work of reconstruction and restoration of public services, I am sure that Association staff and other gas companies will help to any extent desired."

Mr. Curtis replied as follows to Alexander Forward, Managing Director, A. G. A.:

"Very grateful to you for your sympathy and offer of assistance but gas company suffered no interruption to service, lost only a comparatively small number of customers' meters, and five or ten thousand would probably represent a high estimate covering loss. Several city blocks were destroyed, but no families are destitute, nor does there now appear any need of outside help. Personally, I believe five or six million represent a fairly high estimate of the total losses in the city. We fully expect reconstruction will start at once and that the ultimate result will be a bigger, better, and more beautiful city.

C. C. Curtis"

SMOKE ABATEMENT COMMITTEE IS FORMED

THE Executive Board of the Association has formed a Smoke Abatement Committee, consisting of the following members: B. J. Mullaney, H. C. Abell, W. C. Beckjord, Chas. M. Cohn, and H. Leigh Whitelaw.

TO STUDY CHANGING FROM MANUFACTURED TO NATURAL GAS

THE Committee on Economic and Engineering Survey of the Gas Industry, with H. E. Bates as chairman, has appointed a committee to consider the economic and engineering aspects of situations where gas companies changed from manufactured to natural gas supply, or vice versa. This will include consideration of change in consumption load characteristics, rates, precautions, etc.

T. R. Weymouth is chairman of this committee.

WHO BENEFITS?

DOLLARS and brains are working in the laboratories of the trade associations. Who benefits? Every trade association executive must ask himself that question. Every trade association executive finds himself wondering if his members are making real use of the knowledge put at his disposal.

Who benefits?

Here's the answer as a scientist working for one large association gave it:

"Part of my work is going to the regional and national conventions of our association and I have found this: That the men who go to conventions and who bear the burden of the association work are men who get the good out of our laboratory work.

"They learn to listen and to ask. They know what has been and what will be done. They find the dollars in scientific research. They are the men who know the real worth of the association."

Conventions a waste? There's the answer. —Nations Business.

How the Laboratory Approval Seal will look in Canada

HOME SERVICE COMMITTEE PLANS CLOSE COOPERATION

THE Home Service Committee, with Mrs. M. P. Wardman, Brooklyn, N. Y., as chairman, is planning close cooperation with all committees of the Commercial Section in bringing to the attention of customers other gas appliances as well as the gas range. It is felt that this cooperation on the part of home service directors will result in added publicity and increased sales for appliances such as the incinerator, laundry dryer, ironer, etc.

DISTRIBUTION COMMITTEE APPOINTS SUBCOMMITTEES

THE Technical Section Distribution Committee, M. I. Mix, chairman, has formed the following subcommittees:

Pipe Coatings and Corrosion, J. K. Crowell.
Pipe Joints, O. S. Hagerman.
Pipe Materials, V. C. Hoddick.
Cast Iron Pipe Standards, Walton Forstall.
Distribution Portable Equipment, J. H. Braine.
Meters, Geo. A. Lane.
Dehydration of Gas, D. A. Powell.
High Pressure Distribution, F. A. Lydecker.

179 A. G. A. COMMITTEES WITH 1575 MEMBERS

THERE are at present 179 A. G. A. committees, with a total personnel of 1575 members, according to A. Gordon King, service engineer of the American Gas Association, in an address before the annual meeting of the Gas Section of the Wisconsin Utilities Ass'n.

LABORATORY CONTRACT SIGNED

OFFICIALS of the American Gas Association have signed the contract for the erection of the new building to house the Testing Laboratory at Cleveland, Ohio, and work is now under way.

The Osborn Engineering Company, of Cleveland, has been awarded the contract.

Hotel Stevens—Headquarters for Distribution Conference—Chicago—April 12-13

REFRIGERATION COMMITTEE OFFERS HELP IN CODE WORK

ALL member companies are requested to send to Headquarters copies of refrigeration codes in use or under consideration in their respective territories, according to an announcement made by N. T. Sellman, chairman of the Refrigeration Committee of the Commercial Section.

The Committee is ready to assist any company in the preparation of a suitable code.

INCINERATION COMMITTEE APPOINTS

THE Commercial Section Incineration Committee, J. A. Weiser, chairman, has announced the appointment of the following subcommittees: National Sales Plan, R. A. Koehler, chairman; Data for Architects, W. R. Lacey, chairman; Publicity, A. F. Davey, chairman.

HOUSE HEATING COMMITTEE UNDERTAKES WORK

THE House Heating Committee, with Thomson King as chairman, has undertaken a comprehensive program for the coming year, with the following subcommittees organized:

Large Building Heating, D. S. Reynolds, chairman; Insulation, J. D. Preble, chairman; Converted Installations, chairman to be named; Smoke Abatement, Floyd Parsons, chairman; Sales and Service Policy, H. B. Johns, chairman; Warm Air Heating, J. Schomaker, chairman.

WRINKLES

MEMBERS of the Natural Gas Department of the A. G. A. are requested to submit their wrinkles to the Wrinkle Editor of *Natural Gas*, 9 West Fourth Street, Cincinnati, Ohio.

The wrinkle feature has proved of special interest and value to the natural gas industry, and it is felt that the 1928 batch of wrinkles will show to an even greater extent than before the vital purpose behind this activity.

Two Pamphlets Available On Natural Gas Industry

TWO pamphlets on the natural gas industry containing an interesting description of the industry with emphasis on its financial stability, have been issued by investment security firms in New York.

The pamphlets are, "A Brief History of the Natural Gas Industry," by Zwetsch, Heinzelmann and Co., 57 William St., and Natural Gas," by G. E. Barrett and Co., 120 Broadway. Sample copies of these pamphlets may be obtained by communicating direct with the firms mentioned.

Wanted

A COPY of "Proceedings of the International Gas Congress held at San Francisco, Calif.," Sept. 27 to Oct. 2, 1915, for the library of a large university.

The need is urgent. Address Kurwin R. Boyes, secretary, A. G. A., 420 Lexington Ave., New York, N. Y.

COPIES OF STATISTICAL BULLETIN ARE AVAILABLE

EXTRA copies of A. G. A. Satistical Bulletin Number 5 titled "Financial Statistics of the Manufactured Gas Industry, 1923-1926," are available.

This bulletin is the fifth of a series to be issued at intervals for the use of gas company executives. It was prepared by the Statistical Department of the American Gas Association, Paul Ryan, statistician, with the cooperation and advice of the Advisory Committee on A. G. A. Statistics.

Copies may be had by writing to Headquarters.

Distribution Engineers to Meet at Chicago

Stevens Hotel to be Headquarters for Fifth Annual Conference on April 12-13

M. I. Mix

EACH year has seen a notable growth in the enthusiasm with which the distribution engineer has anticipated the discussion of his particular problems at the annual Distribution Conference of the A. G. A. and the Fifth Annual Conference, to be held at the Hotel Stevens, Chicago, Ill., April 12-13, will be no exception.

M. I. Mix, chairman of the Distribution Committee, has announced an exhaustive list of topics for discussion at the conference; covering every phase of the broad field included in the distribution of gas service, and the program which the committee is preparing will afford the engineers a splendid opportunity for the full and complete discussion of the problems confronting them today. The following outline indicates that the distribution engineer will obtain from the Conference valuable information of real service.

J. K. Crowell, chairman of the Sub-Committee on Pipe Coatings and Corrosion, will submit a report on the latest developments including progress of committees of the American Petroleum Institute and the Bureau of Standards who are also studying this subject.

O. S. Hagerman has completed the organization of a standing committee on Pipe Joints that will cover every type of joint for both cast iron, wrought iron and steel pipe. It is expected that the committee will have available for the Conference a paper on a welded line of special interest that has just been completed. A paper is also in preparation indicating the experience of the natural gas men on pipe joints in connection with high pressure transmission of gas. Test work in contemplation on cast iron pipe joints may possibly be sufficiently advanced to warrant a report.

J. H. Braine, of The Brooklyn Union Gas Company, will have available a very comprehensive report on portable distribution equipment. In connection with this M. F. Reeder, of The Peoples Gas Light and Coke Co., will present a brief statement as chairman of the Accounting Section Committee on Cost of Operating Motors and Mechanical Equipment in Distribution Work.

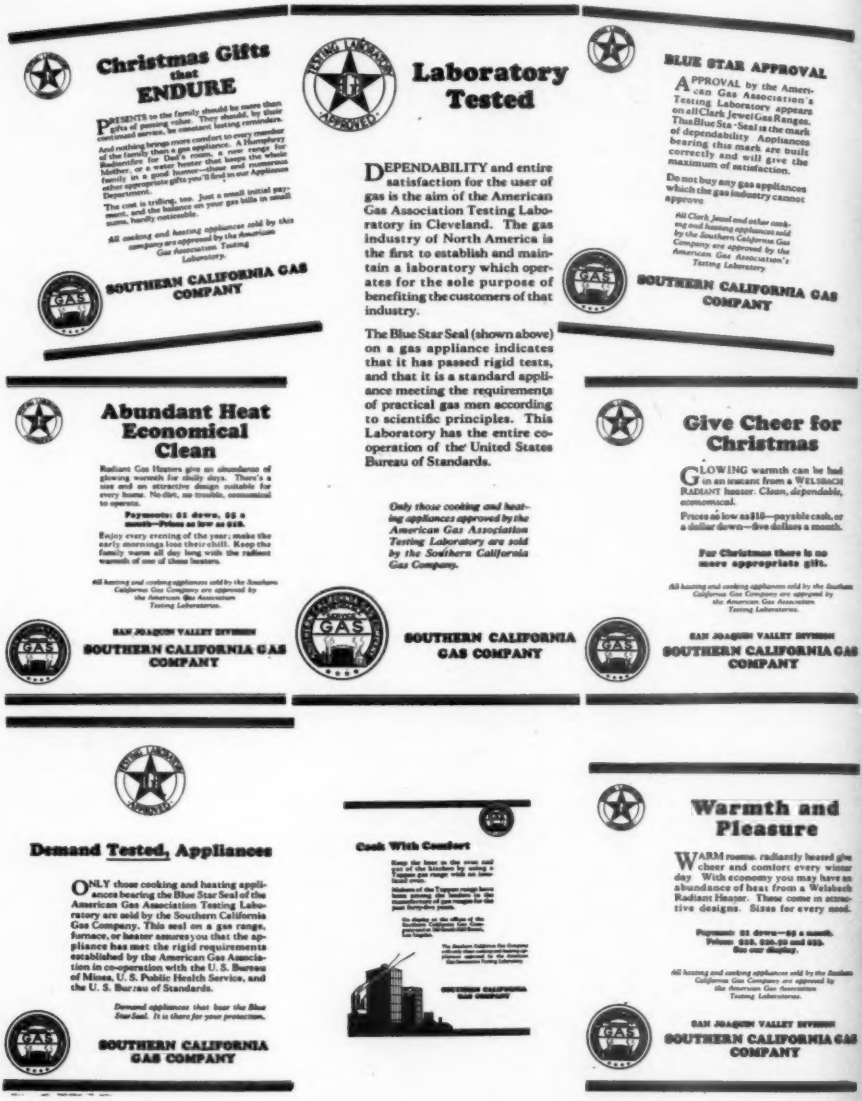
Arrangements have been made for a paper on the use of bar connections on meters by E. S. Umstead, of the Providence Gas Co. The general subject of meters—domestic and industrial—will be handled by the subcommittee on this subject of which Geo. A. Lane, of Chicago, has accepted the chairmanship.

A paper by R. G. Griswold of H. L. Doherty & Co., appearing on another page of this issue, entitled "Life of Pipe," will be discussed.

The subject of automatic devices for raising pressures at district governors, etc., will probably be treated by E. H. Enander, of the Public Service Company of Northern Illinois. Long distance high pressure transmission of gas is the subject assigned to F. A. Lydecker, of the Public Service Electric and Gas Co., and chairman of the subcommittee on Long Distance High Pressure Transmission of Gas. The work of this committee will eventually be contributed as a part of the report of the committee making an economic and engineering survey of the gas industry.

Developments in dehydration of gas will be presented from the distribution engineer's standpoint, and an attempt will

(Continued on page 188)


Christmas Gifts that ENDURE
PRESENTS to the family should be more than gifts of passing value. They should, by their continued service, be constant lasting reminders.
And nothing brings more comfort to every member of the family than a gas appliance. A Humphrey Radiantfire for Dad's room, a new range for Mother, or a water heater that keeps the whole family in a good humor—these and numerous other appropriate gifts you'll find in our Appliance Department.
The cost is trifling, too. Just a small initial payment, and the balance on your gas bills in small sums, hardly noticeable.
All cooking and heating appliances sold by this company are approved by the American Gas Association Testing Laboratory.
SOUTHERN CALIFORNIA GAS COMPANY
Laboratory Tested
DEPENDABILITY and entire satisfaction for the user of gas is the aim of the American Gas Association Testing Laboratory in Cleveland. The gas industry of North America is the first to establish and maintain a laboratory which operates for the sole purpose of benefiting the customers of that industry.
The Blue Star Seal (shown above) on a gas appliance indicates that it has passed rigid tests, and that it is a standard appliance meeting the requirements of practical gas men according to scientific principles. This Laboratory has the entire cooperation of the United States Bureau of Standards.
Only those cooking and heating appliances approved by the American Gas Association Testing Laboratory are sold by the Southern California Gas Company.
BLUE STAR APPROVAL
APPROVAL by the American Gas Association's Testing Laboratory appears on all Clark Jewel Gas Ranges. Thus Blue Star Seal is the mark of dependability. Appliances bearing this mark are built correctly and will give the maximum of satisfaction.
Do not buy any gas appliances which the gas industry cannot approve.
All Clark Jewel and other cooking and heating appliances sold by the Southern California Gas Company are approved by the American Gas Association's Testing Laboratory.
SOUTHERN CALIFORNIA GAS COMPANY
Abundant Heat Economical Clean
Radiant Gas Heaters give an abundance of glowing warmth for dreary days. There's a size and an attractive design suitable for every home. No dirt, no trouble, economical to operate.
Payments: $1 down, $5 a month—Prices as low as $18.
Enjoy every evening of the year; make the early mornings lose their chill. Keep the family warm all day long with the radiant warmth of one of these heaters.
All heating and cooking appliances sold by the Southern California Gas Company are approved by the American Gas Association Testing Laboratories.
SAN JOAQUIN VALLEY DIVISION
SOUTHERN CALIFORNIA GAS COMPANY
SOUTHERN CALIFORNIA GAS COMPANY
Give Cheer for Christmas
GLOWING warmth can be had in an instant from a WELSBACH RADIANT heater. Clean, dependable, economical.
Prices as low as $18—payable cash, or a dollar down—five dollars a month.
For Christmas there is no more appropriate gift.
All heating and cooking appliances sold by the Southern California Gas Company are approved by the American Gas Association Testing Laboratories.
SAN JOAQUIN VALLEY DIVISION
SOUTHERN CALIFORNIA GAS COMPANY
Demand Tested Appliances
ONLY those cooking and heating appliances bearing the Blue Star Seal of the American Gas Association Testing Laboratory are sold by the Southern California Gas Company. This seal on a gas range, furnace, or heater assures you that the appliance has met the rigid requirements established by the American Gas Association in co-operation with the U. S. Bureau of Mines, U. S. Public Health Service, and the U. S. Bureau of Standards.
Demand appliances that bear the Blue Star Seal. It is there for your protection.
SOUTHERN CALIFORNIA GAS COMPANY
Cook With Comfort
Warmth and Pleasure
WARM rooms, radiantly heated give cheer and comfort every winter day. With economy you may have an abundance of heat from a Welsbach Radiant Heater. These come in attractive designs. Sizes for every need.
Payments: $1 down—$5 a month. Prices: $25, $30-50 and $35. Gas case slightly.
All heating and cooking appliances sold by the Southern California Gas Company are approved by the American Gas Association Testing Laboratories.
SAN JOAQUIN VALLEY DIVISION
SOUTHERN CALIFORNIA GAS COMPANY

Selling the Blue Star in California

THIS is how the Southern California Gas Company, of Los Angeles, Calif., is telling the story of the A. G. A. Laboratory and approved Blue Star appliances to the public. These are typical advertisements which have appeared in the daily press during the past few months, according to F. Harvey Holden, director of the information department of the company.

Long Distance Gas Transmission in Germany

Study Made by the German Gas Association on Supplying Distant Cities from the Ruhr Basin

THE founding of a company for coal conservation in the Fall of 1926 has brought into the foreground the problem of supplying gas to the principal parts of Germany from central stations located in the Ruhr basin. The problem has another aspect in the possibility of using lignite coal, but the technical application of lignites for gas making has not progressed far enough to warrant consideration at the present time. Therefore, these notes will be concerned solely with the possibilities of the bituminous coals used in coke ovens in close proximity to the mines of the Ruhr.

The study divides itself naturally into five parts, the first two dealing with the scientific and technical confirmation of the usefulness of the gas furnished, transmission and distribution of the gas, safety, and continuity of supply. The other divisions are economic in their nature, and include comparison of the production cost of coke oven gas with the existing costs to each community manufacturing its own gas. In this problem, the price of the coke oven gas is naturally a principal factor. Since this has not been definitely determined, no positive conclusions may be drawn from it. The observations which have been made depend somewhat on personal opinion, and will require further proving to establish their accuracy. In this connection, of course the conditions in the various parts of the country would have a different significance.

The fourth division considers the possibilities for the development of gas utilization in Germany, a problem which is of the most vital importance in the choice between long-distance gas transmission or individual production.

The fifth division considers the experiences of local companies in dealing with the Ruhr gas, and also other companies which have used long-distance transmission methods. In conclusion mention is made of the effect of change from local gas production to coke oven gas from the Ruhr on the sociological and political situation.

Each of these topics has been considered in great detail, and the work of examining into the problem divided among numerous committees. The findings have been gathered together and summarized by the German Gas Association as follows:

Through the introduction of a general long-distance gas transmission system, it would be impossible to prevent a far-reaching liquidation of the community gas manufacturing capacity. The capacity of the gas companies now in private hands would also have to be restricted to a very small section of their present working territory. They would have to limit any further development of their local gas generating capacity in both technical and commercial fields. The return for doing this, quite apart from the safety features involved, can only be found in really noteworthy commercial advantages, the burden of whose proof still rests on the side of the coke oven gas manufacturers. For this reason, one can continue, without prejudicing the question, and ask whether, and in what amount, gas delivered from coke ovens will render permanent advantage to the community.

Under this concept, it is necessary to include some thought at least of the possibilities of the Middle German and East Elbe lignite deposits, since the indications point that these fuel sources, and perhaps others, will sooner or later be technically available for city gas manufacture, and therefore will introduce new viewpoints for the entire problem.

The following items have been established:

1. The cost of manufacture of gas is not higher in newly constructed and properly conducted gas works than the cost of coke oven gas produced up to the present time. In communities supplied by such gas plants, then, as things are today, there seems to be no commercial urge for coke oven gas.

2. Production cost of coke oven gas will be increased for the following causes:

a. The fixed charge and operating cost for the purification of coke oven gas depends upon the technical solution of the purification problem, which up to the present has not been accomplished.

b. The same holds true for the maintenance of the specified constant B.t.u. value. How uniform gas as regards B.t.u. value, specific gravity, and composition shall be guaranteed has not been established. Methods of equalizing the heating value through the addition of methane or hydrogen, as has been suggested, introduces serious difficulties because it would not be possible to alter the high specific gravity by this means.

c. The reserve installations in order to ensure thorough safety against interruption of the gas service will require great capital investment.

3. Technically, safety in distribution is viewed increasingly serious the further the city is from the coke oven plants, even with widespread reserve distribution systems and ample capacity. Regarded from the internal, as well as external viewpoint, the construction of numerous production centers on the periphery of the Republic introduces a constantly increasing hazard which in times of political or commercial disturbance in the coal regions, as far as one can determine at the present time, is likely to result in a cessation of gas distribution.

4. Supreme monopoly would be given to the coke oven plants in the event that they possess exclusive delivery of the gas to the cities. This would work out similarly with central gas systems in the control over the delivery of all the by-products, especially coke and tar.

Advantages through lowering in the gas prices would react to the disadvantage

(Continued on page 188)

The American gas industry's slogan in use in Germany

"How We Remove Furnace Coils—and Why"

Proving That Furnace Coils Do Have a Marked Influence on the Consumption of Gas in the Home

By W. W. SCHRAM
Northern Indiana Public Service Company

THIS year the Water Heating Committee of the American Gas Association is attempting to gather definite information about furnace coils. An attempt will be made to collect reliable data showing the effect on gas sales through the removal of furnace coils and also tabulate the methods which have been followed by those companies which have gone after the furnace coils.

The committee is having difficulty learning which companies have done work along this line and would appreciate any information which might be sent to it. Communications should be addressed to B. H. Gardner, Chairman, A. G. A. Water Heating Committee, Northern Indiana Public Service Company, Hammond, Indiana, or to the author of this paper at the same address.

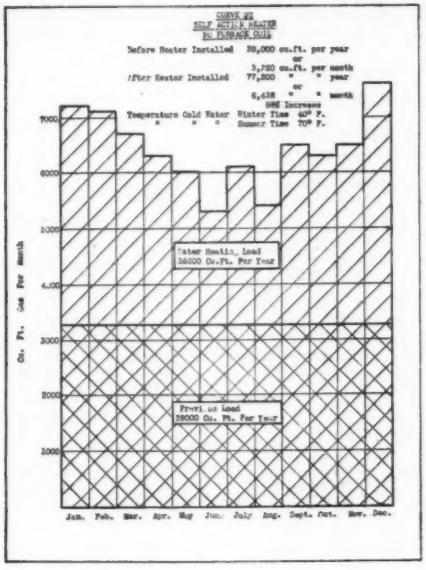
THOSE who have been actively engaged in marketing storage water heaters have come to recognize the furnace coil as chief competitor. In our territory it is standard practice to install furnace coils in all new houses. It is a habit of years' standing for the general public to expect the home heating plant not only to heat the home but to supply hot water for domestic purposes as well. Many people actually believe that the furnace coil furnishes *free* hot water. The questions of service—of having hot water when they *want* it rather than when it happens to be there—of having hot water at a uniform temperature rather than too hot one hour and too cold the next—of hammering pipes and tanks—of bursting coils in zero weather—do not seem to concern them. Nearly every furnace coil user will wax eloquent describing the superb hot water service rendered by his furnace coil, and it is only after an endless amount of explanation and suggestion that the furnace coil enthusiast will finally agree that *possibly* his furnace coil does not render one hundred per cent hot water service.

Recognizing the furnace coil as chief competitor, let us now consider whether or not the effort required to remove it is worth while. The studies presented were made in a territory where the source of water supply is Lake Michigan and the incoming water temperature is 40° in winter and 70° in summer, necessitating a 100° temperature rise in winter and a 70° temperature rise in summer or a 43 per cent increase in fuel requirements winter over summer. Each chart is a composite of a number of different accounts. We do not claim that the figures presented are absolutely correct, but we do feel that they indicate something of the possibilities for increased gas sales from the removal of furnace coils.

Curve 1 is a picture of the gas load of a typical home where a gas self-action storage type water heater is the sole source of hot water. The gas sales to this home were 39,000 cu.ft. per year previous to the installation of the self-action and 77,200 cu.ft. per year after the installation—an increase of 98 per cent in gas sales per year.

Curve 2 is a picture of the gas load in another typical home—the home where the owner believes in the use of a self-action in summer but in winter uses a furnace coil and either shuts off the self-action or floats it on the line. Note that the load previous to the self-action installation was 30,000 cu.ft. per year, and after its installation 51,300 cu.ft. per year—an increase in this case of only 71 per cent as against 98 per cent in the first case. This is a loss of 27 per cent. Assuming an average domestic consumption of 39,000

Presented at Mid-West Sales Conference, Chicago, Feb. 15, 16, 17.



Curve 1

cu.ft. previous to the installation of a self-action water heater and a load increase of 98 per cent when the coil is removed and 71 per cent when the coil is allowed to remain, there is actually lost in sales 27 per cent of 39,000 or 10,500 cu.ft. per year—just about half as much as a self-action is worth when the furnace coil is not removed. In other words, the load building value of two furnace coils equals that of one self-action.

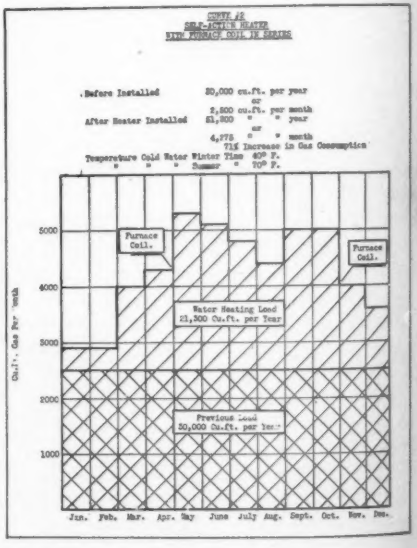
This loss in sales is visualized in Curve 3 which was obtained by deducting, from Curve 1, 10,500 cu.ft. from the consumption during the winter months. Here, then, is a picture giving at least some idea of what furnace coils mean to the gas industry. There can't be any question about the desirability of removing them. The big question is "how to do it."

Last May, in connection with the sale of self-actions, we began making a serious effort to remove furnace coils. Here are the results of our campaign:

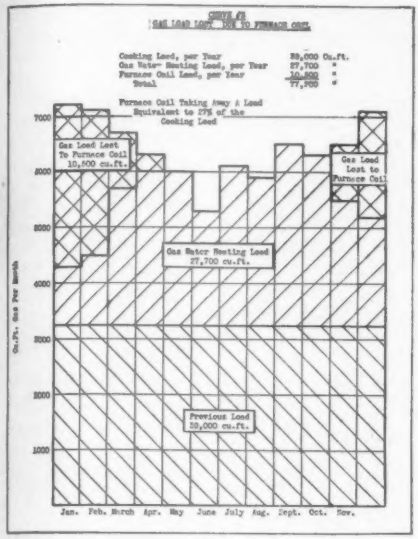
District	Meters	Coils Removed in % Self-Actions Sold
A	25,200	50
B	7,100	12
C	1,950	42
D	1,050	37
E	5,900	19
F	29,050	41
Average of all		39

I expected to find a ratio between number of meters and percentage of coils removed, thinking that it might be more difficult to put this idea over in the smaller communities than in the larger, but no such relation is evident. As all the properties had the same sales set-up, the success of a coil campaign seems to simmer down to a question of salesmanship. One gas man states his company removed coils in 80 per cent of the cases where self-actions were sold. It seems that this is almost a perfect job as many sales must have been made on new buildings where there were no coils to remove.

We allow the customer $5 on the purchase price of the self-action upon removal of the furnace coil, and we pay the salesman a bonus of $2.50 per coil. We charge this bonus to new business. The



Curve 2


CURVE #3
GAS LOAD LOST DUE TO FURNACE COIL
Cooking Load, per Year 39,000 Cu.Ft.
Gas Water Heating Load, per Year 27,700 "
Furnace Coil Load, per Year 10,800 "
Total 77,500 "
Furnace Coil Taking Away A Load Equivalent to 27% of the Cooking Load
Gas Load Lost To Furnace Coil 10,500 cu.ft.
Gas Load Lost to Furnace Coil
Gas Water Heating Load 27,700 cu.ft.
Previous Load 39,000 cu.ft.
Cu.Ft. Gas Per Month
7000
6000
5000
4000
3000
2000
1000
Jan. Feb. March Apr. May June July Aug. Sept. Oct. Nov.

Curve 3

salesman is aided by bill inserts and newspaper advertising, and the company agrees to replace the coil free in case the customer wants it back. In such cases of course, the $5 credit is cancelled. We replace very few.

Arguments used by the salesmen for the removal of coils may be classed under two heads, Service, and Costs.

Service arguments include:

1. Better temperature regulation. Hot water from a self-action is always just right—never too hot—never too cold: dependable.

2. No annoyance from pounding of the tank owing to boiling water.

3. Elimination of the danger of bursting coils with resulting inconvenience and danger to heating plant.

4. Better heating service. Furnace coils reduce the heating capacity of the house heating plant.

Cost arguments bring out the fact that hot water from a furnace coil is not free, and that while the gas bill may be slightly increased, the fuel bill for house heating will be decreased. Cost discussions usually grow into heated arguments unless they are skillfully controlled by the salesman. We find we are more successful when we avoid costs and discuss service, comfort, and convenience.

We recognize that the problem and conditions in each community are different and the facts that we have learned about furnace coils in our territory may not be exactly the same in others, but there must be some similarity and it therefore seems logical to assume that the removal of furnace coils is a field for load building that is well worth cultivating.

Dep't of Commerce Looks at Trade Associations

THE purpose of "Trade Association Activities" recently published by the United States Department of Commerce is to indicate the successful service of trade associations in public interest, according to the foreword written by Herbert Hoover, Secretary of Commerce.

This book, superseding "Trade Association Activities, Elimination of Waste Series, 1923," deals specifically with the organization of trade associations in the United States, their services, etc. Chapters on statistics, cost accounting, industrial and commercial research, simplified practice, industrial standardization, public relations, credit and insurance, and other features cannot fail to impress even the casual reader with the real importance of trade associations in the economic scheme of this country. Every type of association is taken up and brief mention made of the leading activities.

The book contains the following references to the American Gas Association:

"Under industrial and commercial research the A. G. A. is listed as an organization engaged in the specific project of 'testing gas appliances to determine their safety.'

"The Testing laboratory of the American Gas Association is located in Cleveland, where both natural and manufactured gas are available. Initial work in this laboratory, established in 1925, was in the nature of research to establish standards for gas appliances. The standards developed have been approved by the American Society of Mechanical Engineers and the American Engineering Standards Committee. Their adoption is now being considered by the Canadian Gas Association.

"Since the final completing of the approved requirements for flexible gas tubing, gas

ranges, and space heaters, the laboratory has approved ..... types."

"The fire insurance committee of the American Gas Association has in course of preparation a self-inspection blank which is designed to measure the hazards of gas plants. In addition, a series of articles on fire prevention will appear in the monthly bulletin of the association."

"The American Gas Association has promoted the efficient production and wider use of gas by much the same methods as those used by the N. E. L. A. It has done much to educate the public as to the B.t.u. content or heat producing capacity of gas as the essential quality. The association has encouraged the use of gas for cooking, heating, and industrial uses and has developed helpful instructions for householders in the more effective use of gas.

"In 1925 it established a testing laboratory at Cleveland, Ohio, for the purpose of testing as a basis of granting approval of various gas appliances, such as flexible gas tubing, gas ranges, and space heaters. The standards used in the work were prepared by committees of the American Gas Association. These committees provided equal representation for manufacturers and gas companies and contained members of the Bureau of Standards, Bureau of Mines, Public Health Service, and Master Plumbers Association of America. Within a little more than a year 14 different types of flexible gas tubing, 44 models of space heaters, and 1715 gas ranges have met the requirements and have been approved. Tentative approval requirements have also been prepared for water heaters and house heating appliances."

(It is realized, of course, that the statements concerning the number of approved appliances are out-of-date and also, the Canadian Gas Assn. has since adopted the laboratory requirements.)

"Trade Association Activities" is bound in cloth, contains nearly 400 pages, and is sold at 75 cents a copy by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C.

450 Attend Mid-West Sales Conference

At Chicago, February 15, 16, 17

THE second Mid-West Regional Sales Conference, held at Chicago, Ill., Feb. 15, 16, 17, proved to be one of the best sales conferences held. With an attendance of about 450, and a program of interesting papers by men well-qualified to discuss the various merchandising problems assigned to them, the conference will be remembered as even better than the record-breaking one held last year in this territory.

Paul D. Warren, chairman, presided at the sessions. After a keynote address by John G. Learned, vice-president of the Public Service Co. of Northern Ill., the program of the first day consisted of papers on refrigeration, by E. S. Murray, of St. Louis, Mo., and water heating, by Howard Pett, of Jackson, Mich.

On the second day central house heating was presented by H. B. Johns, of Chicago, and incineration was covered by Frank Sheridan, of Winnetka, Ill. A symposium on auxiliary heating was a feature of the afternoon meeting on the second day, and the following subjects were discussed: Radiant type heaters, by A. W. Baker, Kansas City, Mo.; gas-fired base burners, by C. A. Luther, Chicago, Ill.; garage heaters, by A. C. Murray, Waukegan, Ill.; gas-fired radiators, by B. P. Gulley, East St. Louis, Ill.

Advertising for greater sales was the subject of a paper by E. Frank Gardiner, of Chicago, at the third day's session. Campaigning ranges, by E. J. Otterbein, Davenport, Ia.; appliance aids for increasing range consumption, by H. L. Dunavan, of Chicago; and home service, by Miss Gladys L. Peckham, of Plymouth, Michigan, were also features of this session.

A. E. Higgins, of the A. G. A., gave a paper on putting over the Blue Star Home idea, and this was followed by a talk on salesmen's compensation, by F. C. Mackey, of Chicago.

Alexander Forward, managing director of the A. G. A., welcomed the delegates to the conference, and called particular attention to the important place the merchandising man is assuming in the industry.

New York Gets First All-Gas Apartment

From Information and Data Furnished by

WALTER D. SMITH
Consolidated Gas Company of New York

THE first all-gas apartment house in the greater New York area, and possibly in the entire country, has but recently been erected in Bayside, a Long Island suburb. The Dentson Realty Company, builders of the apartment, and the architect, C. S. Winkelman, designed the house for tenants of moderate means, and the installation of heat, hot water, refrigeration and cooking facilities, fuelled and controlled by a single valve, is something in the way of an achievement, when an apartment so equipped can come within the range of an average income.

ANNOUNCING
New York's ALL-GAS
Apartment House . . .
Complete heating service at the turn of a valve
NEW YORK & QUEENS GAS COMPANY
114 Amity Street, Flushing, Long Island

How the gas company "told the world" about New York's first all-gas apartment house

The building is two stories high, each of its twelve apartments consisting of four rooms and bath. Each kitchen is equipped with a combination gas range and gas refrigerator, the fuel cost for these appliances being included in the monthly rental.

The heat, automatically controlled and supplied by a gas boiler, is also covered by the rent, as well as the hot water supply, provided by a gas boiler.

Installation of this equipment was made possible by the cooperation of the House Heating and Refrigeration Divisions of the Gas Company. Boiler size for house heating was determined on the amount of radiation required, the radiation calculated in terms of B.t.u. losses per hour. To meet these demands a boiler rated at 1920 sq.ft. of radiation was recommended.

With this equipment, meter sales per year will total 200,000 cu.ft. for each family, as compared with 40,000 cu.ft., the average meter sales per family in the neighborhood.

The planning of this apartment presented an excellent opportunity to take a specific problem and demonstrate the efficiency and flexibility of gas as a heating and refrigerating fuel. It offered a chance to disprove the widespread conception that the installation and operation of such equipment is prohibitive in cost.

The estimate of operating cost made by the gas company was based on figures covering average winter temperatures for a number of years, percentage being allowed for abnormally mild or severe winters. The New York & Queens Gas Company, supplying gas in Bayside, calculated the heating load for the entire building to be approximately 1,302,000 cu.ft. for a season, basing the estimate on the fact that 1000 cu.ft. of gas per square foot of steam radiation is required in this locality to adequately heat a structure the size of the Bayside house.

The figures in the table give the summary of radiation required to have a

uniform temperature of 70° F. in the rooms with zero conditions outside:

SUMMARY OF RADIATION REQUIRED

End House*

	1st Floor	2nd Floor
Living Room	40.0	41.0
Dining Room	13.0	13.5
Bed Room	27.0	27.0
Kitchen	30.0	32.0
Bath	6.0	6.5
Hall	6.0	11.0
	122.0	131.0

Center House

	1st Floor	2nd Floor
Living Room	37.0	32.0
Dining Room	13.0	13.5
Bed Room	27.0	27.0
Kitchen	15.0	12.0
Bath	3.0	3.2
Hall	5.0	5.0
	100.0	92.7

Radiation at 50° F.—Halls

End Houses
17 sq.ft. C.I.R. × 2 × 1.16 = 40 sq.ft. C.I.R. boiler tax
Center Houses
10 sq.ft. C.I.R. × 4 × 1.16 = 47 sq.ft. C.I.R. boiler tax

87 sq.ft. C.I.R. boiler tax radiation at 50° F.

Radiation at 70° F.

End Houses
236 sq.ft. C.I.R. × 2 = 472 sq.ft. C.I.R. boiler tax
Center Houses
182.7 sq.ft. C.I.R. × 4 = 731 sq.ft. C.I.R. boiler tax

1,290 sq.ft. C.I.R. boiler tax for 6 houses.

1,290 sq.ft. C.I.R.
323 + 25% for risers and returns covered

1,613
403 + 25% for quick heating

2,016 sq.ft. Boiler size on 210 B.t.u. basis or $2{,}016 \times \frac{210}{240} = 1{,}780$ sq.ft. .240 B.t.u. basis.

*More radiation was needed for end and upper apartments as they had more exposed surface.

In planning the hot water supply, the following method was used to determine the maximum daily demand:

12 apartments—4 rooms and bath
*90 gallons per apartment per 24 hours
Maximum 24 hour load: 90 × 12 = 1,080 gallons

Boiler size is $\frac{1{,}080}{10}$ = 54 gallons hourly

Maximum hour is $\frac{1{,}080}{20}$ = 108 gallons

Tank Size is 4 (108-54) = 216 gallons

*Data from "Water Heating by Gas," N. T. Sellman.

The recommendation of an indirect system to supply hot water was made since this method prolongs the life of the gas boiler and prevents rusty water. To supply water at 140° F., the estimated gas consumption is approximately 600,000 cu.ft. for this type of installation.

As it stands, this apartment house is about as near to self-sufficiency and independence in operation as can be contrived. Ice and coal delivery have been eliminated and janitor requirements reduced to a minimum. It offers to a tenant advantages impossible to ignore. In an apartment house with a constant temperature, the tenant can dismiss the heating problem from his mind for good. Aside from simple comfort, this constant temperature is a health safeguard, and the attendant freedom from dust, smoke and ashes is of great importance in the care of young and growing children.

The combined gas range and refrigerator not only makes for compactness and convenience, but perfect refrigeration of this type means the elimination of a great deal of food waste. The quietness in operation of the refrigerator is, of course, a great attraction, particularly in an apartment of small size.

Inasmuch as any mechanical refrigerator functions best in a heated space, subject to the same temperatures the year 'round, the automatically controlled temperature of the Bayside apartment should assure a maximum efficiency in the refrigerator, a uniform performance in ice cubes, and the maintenance of a constant chilling temperature.

ACQUISITION of the Durham, N. C., gas system has been announced by the Southern Cities Utilities Company, which operates gas plants in Maryland, Delaware, New Jersey, and Manila, Philippine Islands, and other utility and ice properties.

Negotiations for the Durham gas property were concluded with its purchase from the Carolina Light & Power Company.

BRIEF AVAILABLE ON WALSH RESOLUTION HEARING

GAS company executives who care to obtain a copy of the brief filed by the Joint Committee of National Utility Associations with the Senate Committee on Interstate Commerce in reference to that Committee's recent hearings on Senator Walsh's resolution, will be supplied from Association headquarters as long as the supply lasts.

Soap Makers Start Cleanliness Program

Newly Formed Institute Plans to Sell Cleanliness Idea to the American Public

By ROSCOE C. EDLUND
Manager, Association of American Soap and Glycerine Producers, Inc.

THREADBARE "service," worn and frayed by overusage, walked off the printed page some 18 months ago and joined in the discussions held by a group of leading American manufacturers assembled in Chicago. They had come together to see whether they could cooperate for the common interests of their industry. Representing an industry which had existed in one form or another for more than two thousand years, it might not have seemed to them, at first sight as if an educational campaign could be built around a product whose use was a tradition in practically every civilized home.

But there were men of wider vision within the industry, and service, in action, became the central point of new plans discussed at that meeting. Leading factors in the industry were among the country's greatest national advertisers; large sales organizations had been developed; distribution already covered every conceivable channel. Yet the fact remained that the market for the industry's products in the United States was not as wide as it should be, considering the importance of the commodity in the lives of the more than one hundred million people of the country. In the competitive struggles to establish various brand identities, some of the fundamental appeals of the product had been taken too much for granted.

THE Cleanliness Institute, 45 East 17th Street, New York, N. Y., will be glad to place on its mailing list up to 200 members of the American Gas Association to receive its publicity and advertising material.

Because the use of hot water is closely associated with cleanliness, it is felt by those in charge of Cleanliness Institute that gas companies will be interested in their program.—Editor.

The new idea, almost startling in its simplicity, was that the time had now come for the industry as a whole to put its shoulder behind the task of selling the product on the basis of fundamental human service.

From this discussion sprang the germ of a new cleanliness movement in the United States, which less than a year ago took shape in the organization of Cleanliness Institute, sponsored and supported by the Association of American Soap & Glycerine Producers, representing more than 75 per cent of the entire production of the industry.

Paradoxically, the leaders of the American soap industry decided that the longer way around would prove the shortest distance between the two points of soap production and soap sales in the United States. The industry trained its heavy batteries, not upon soap, but upon clean-

One piece of cleanliness copy

liness education, knowing that higher standards of cleanliness are a sound ground for public service and inevitably mean market for soap.

That this is a small world, industrially speaking, has been well illustrated by the experience of the cleanliness movement to date. It was an acute industrial observer who first remarked, a few years ago, that the failure of modern youth in Russia to consume the vast quantities of tea which the country had previously absorbed had seriously affected the interests of American cotton growers in the Mississippi Valley. The sharp reduction of tea drinking in Russia had brought about a crisis for the tea producers of India, whose declining prosperity in turn had affected the purchasing power of the country, and this had very appreciably reduced the market for American cotton in India. Tea and cotton, soap and gas, cleanliness and prosperity, therefore, bear relations to each other, not always apparent to the naked eye.

It is from this angle that a brief account of the program and activities of Cleanliness Institute will be of interest.

On June 23, 1927, Cleanliness Institute formally announced its plans of service at a dinner in New York, attended by a distinguished audience representing leading educational, health, public service, and industrial interests. The event marked the formal inauguration of a nation-wide cleanliness movement.

This step was taken only after months of organization and preparation, during which important personnel problems had been solved, various departments installed, and a program of cleanliness education through the schools and of contact with health and social service agencies been initiated.

One of the first activities of Cleanliness Institute was the organization of the school department, to introduce supplementary educational material on the subject of cleanliness into the grade and high schools of the country, through methods tested and approved by the best educational authorities. A supplementary reader, entitled "After the Rain" for the third, fourth, and fifth grades, written by Grace T. Hallock, with an introduction by Dr. C. E. A. Winslow of Yale University, and issued by the school department, has been enthusiastically received by school authorities in every state. This is to be followed by a reader for the primary grades and a book for high school students. In each case the subject of cleanliness education is so presented that it can be made a part of the school curriculum in connection with hygiene, history, geography, civics, and other courses. Miss Sally Lucas Jean, well known for her work in nation-wide educational projects of a similar character, is school consultant to Cleanliness Institute, and Miss Julia B. Tappan, former director of important educational programs, is the director of the school department.

The health program of Cleanliness Institute has been organized largely by W. W. Peter, M.D., an internationally known health educational authority. As

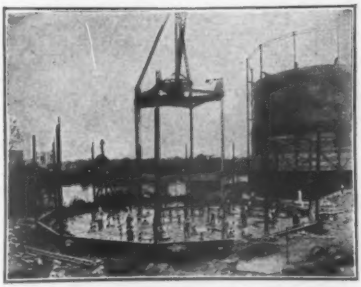
(Continued on page 179)

Statistics—Their Relation to Management

Statistical Records Are Vital in the Construction and Operation of Gas Companies

By PAUL RYAN
Statistician, The American Gas Association

IN considering the function of statistical records in relation to construction and operation of gas utilities, it is desirable first to visualize the operations of the business as a whole, so that each phase of the business may be seen in its proper perspective and in its relation to all other phases of the business.



Records are behind all construction efforts

A gas utility, like public utilities in general, is about as complicated a form of corporate enterprise as is to be found in modern economic society. And yet underlying all the complexity of structure to which the gas utilities have grown, there are still clearly discernible the three basic operations of the business: Production, sales, and finance.

Years ago, at the inception of the industry, when the average gas company was a small local affair, a single manager would personally supervise all three phases of the business. He was responsible for production, for marketing or sales, and for the proper conduct of the financial affairs of the corporation.

Contrast this, however, with conditions today, where the gas utility faces the complicated technical problems involved in the production of billions of cu.ft. of gas by various methods and processes, and the proper balancing and utilization of these various processes to obtain the best over-all economy of production, the distribution of the product over a vast territory, involving problems in storage and pressure regulation, the manifold problems involved in marketing the product to all the various classes of customers and types of industry by whom it may be most effectively utilized, and the complicated and important problems involved in the administration of finances for such an undertaking. When to all these are added another factor peculiar to the public utility industry, governmental control and regulation, it becomes obvious that some means must be devised for keeping the management in close touch with all of the various factors involved in the administration of the enterprise. And it is here that the real importance of accounting and statistics becomes manifest, for accounting and statistics are both essentially tools of management. Their basic and primary function is to provide the management with facts and information on all phases of the companies' business, for only with such information is it possible for the executives to formulate policies and decisions which will be most conducive to the wise and economical administration of the companies' affairs.

In considering the importance of statistics in the operation of a gas utility, it is desirable to distinguish at the outset between the mere collection or compilation of data and the statistical interpretation of such data. While the compilation of data is a necessary step in any statistical program, it is the interpretation of data by means of the highly developed methodology of modern statistical science that affords possibilities of great usefulness and service to the gas utility.

All of the various accounting records

are the source of much valuable statistical data, but it is in the method of utilizing such data that accounting and statistics differ most. From the accounting viewpoint it is the validity and accuracy of the individual figures that is important. The statistician, however, usually deals with large masses of data considered in the aggregate.

As illustrative of this is the market survey, which is of great importance to the well-managed gas company. It has become almost an axiom of modern marketing methods that every sound merchandising policy must begin with the consumer. For the gas company this should mean an intensive study of the market represented by its territory served, to determine all of the possible ways in which gas may be used and to form some sort of quantitative estimate as to the aggregate sales volume that would result from such uses. In some instances this problem has been approached by taking an actual census or enumeration of all the various customers, both existing and potential. This, however, is obviously a task of some magnitude, even for a relatively small company. Equally satisfactory results may usually be obtained through the method of sampling, provided sound statistical principles are followed in determining the size and checking the representative nature and adequacy of the sample. The sampling process outlined has been used extensively in studying the characteristics of the domestic consumer. To be of greatest value such a survey should include, in addition to data on the consumers, existing uses of gas and gas consuming appliances, estimates on the possibilities of increased consumption through sales of additional appliances, together with information on the budget or family expenditure for various income groups. From such surveys information may also be obtained as to the consumers' buying habits and mode of living, which is of great value to the merchandising or new business department in planning sales campaigns, and is also of value to the publicity and advertising departments of the company in carrying on their work.

When such survey data are available over a period of years, the application of statistical and economic research often yields information on important trends and tendencies in a company's affairs, as when it was found in many cities that the growing habit among consumers of living in apartments, and patronizing restaurants and delicatessen stores, and sending the family wash to the steam laundry, all made serious inroads upon the domestic sales of gas, which required vigorous sales effort based upon sound statistical information on markets and consumer's mode of living to combat.

OTHER DATA NECESSARY

It is also vitally important for a gas utility to have adequate and complete data on the industrial, commercial and other possible uses of gas which may be developed within its territory. Since gas sold for such uses must compete with other fuels, it is also important to know the costs and prices of competitive fuels. It is also highly desirable to know as much as possible about the load characteristics of various types of business, as for example whether a particular industry is a steady all-year-round customer, or whether it is highly seasonal in nature, using large quantities of gas for only a few months of the year. In such cases it is especially desirable to know whether the consumer's demand for gas occurs when the company's plant and distribution system is loaded to capacity or not.

The foregoing data on competitive fuel prices and load characteristics of consumers are some of the statistics which are essential to the design of a proper rate schedule which will enable a gas company to meet competition on even terms, expand the sales of its product, and increase its usefulness to the community it serves.

The foregoing external statistics of the market may be supplemented by the company's internal statistics of sales, derived from its own records.

But to be of real value, the sales figures must be segregated and classified to reflect the various types and classes of business represented. The sales figures should be classified not only along functional market lines, such as domestic uses, industrial and commercial uses, etc., but also along quantitative lines, showing the number of consumers using various quantities of gas, graded in appropriate intervals. From such statistical analysis it is possible to determine readily what phases of the company's business are making satisfactory progress, and those phases which may require special attention, whereas if only total sales figures were scrutinized, the company's business as a whole might appear to be making satisfactory progress, when some one branch of the business, as commercial or industrial, was increasing so rapidly as to conceal an actual decrease in some other part of the company's sales, such as domestic.

Such classification and analysis of sales throws a great deal of light on a company's rate problems, indicating whether rates to particular groups or classes of customers are too high or too low, and when used in conjunction with a carefully worked out cost analysis, will indicate whether all groups and classes of customers are paying their just and equitable share of the costs involved in serving them.

There are many other examples of the manner in which the internal statistics derived from a gas company's own records may be utilized for general operating and executive control. Chief among these is the formulation of statistical standards which may be used as a check upon the operating efficiency of the company. Such data would include, among other things, a study of unit production costs over a period of years, subdivided to disclose labor and other costs, an analysis of personnel statistics, to disclose rate of labor turnover, scale of payment, labor supply, effects of welfare work and other factors of a similar nature.

Internal statistics derived from a gas utility's past records are also of great value in formulating the company's budget plan. By means of the highly developed methods of modern statistical science, such as fitting mathematical curves to a series of data covering several years, it is possible to forecast for one or two years in advance with a fairly high degree of precision, several of the company's chief operating series, such as sales, revenues, customers, etc. While it is customary to build up the budget of expense items from the various departmental estimates, on the theory that the various department heads who must execute the budget should have some voice in its formulation, it will nevertheless frequently prove of value to forecast total operating expenses by statistical means as a check on estimates derived in other ways.

Perhaps the chief advantage accruing from the development of internal statistical standards is where similar standards have been formulated for the industry as a whole, and a particular company is thus enabled to compare its own performance with what may be considered typical or normal for the industry.

GENERAL BUSINESS CONDITIONS

Serving somewhat the same function are the methods which have been developed for analyzing the effects of changes in general business conditions on the operations of a gas utility. These comparisons are especially important in cases where the gas company has developed a large industrial load, which may be dependent to a considerable extent on the growth and prosperity of the industries it serves. The most extreme cases of this may be seen when a company serves a single industry community, that is, where there is one predominating type of industry, such as textiles, or leather goods, or automobiles, etc. In such cases it is very desirable for the gas utility not only to have statistical information on the prevailing type of industry, but statistics on national business conditions as well, so as to be in a position to judge whether fluc-

tuations in its sales arise from causes within its own control, or are the result of changes in the general state of business within the community or in the nation as a whole.

Statistics on general business conditions will also be of value to the company's construction and purchasing departments, as it will often be found possible to defer certain construction and purchases until they may be made under more favorable circumstances. Such general statistics are also valuable to the company's financial officers, in enabling them to judge as to the best time to undertake new financing, and what form the financing should take, whether stocks, bonds, bank loans, etc., as viewed in the light of conditions prevailing in the money markets at the time.

(Continued on page 182)

Three Western United Employees Receive McCarter Medals

RAY CLUTTS, Ed Schmidgall, and George G. Champ, employees of the Western United Gas and Electric Co., Aurora, Ill., have been awarded McCarter Medals by the American Gas Association for the saving of human life from asphyxiation by the use of the prone pressure method of resuscitation.

G. G. Champ

Ed Schmidgal

Champ received his medal for resuscitating a fellow employee who was overcome when a gas mask became loose. The man overcome was removed from the ditch in which he was working, and Champ and another employee, Vaughn, applied the prone pressure method at intervals for an hour and twenty minutes. Champ rushed for an inhalator and this was also used in reviving the victim.

Ray Clutts

Clutts entered the select rank of those who wear the coveted McCarter Medal by resuscitating a fellow employee while engaged in repairing a leak in a service pipe. Farner, the man overcome, was attempting to plug the leak when the gas rendered him unconscious, and Clutts resuscitated him after applying the prone pressure method for 15 minutes.

Ed Schmidgall won his medal and certificate by saving the life of Clark Brim, a fellow employee, who was overcome while preparing to make a tie-in on a gas line. Starr, another employee on the job, complained of feeling faint to Schmidgall, and both of them looked to see how Brim was making out. They saw him crumpled up, and after dragging him from the hole, Schmidgall applied the prone pressure method for 20 minutes. Starr relieved him, and when Schmidgall again applied resuscitation, Brim started to breathe. This was about 30 minutes after he was dragged from the hole in which he collapsed.

The McCarter Medals and certificates were presented to Clutts and Schmidgall by J. F. Egolf, at a joint meeting of employees held recently at Murphysboro. A certificate was awarded to C. P. Starr. At the same meeting a telegram from the American Gas Association was read. It stated that Champ had been awarded a Medal and certificate, and Vaughn a certificate.

The McCarter Medal is awarded for successful application of the prone pressure method in cases of gas asphyxiation. It is donated by Thomas N. McCarter, president of The Public Service Electric and Gas Co., Newark, N. J.

VAN CORTRIGHT MEKEEL, who has been connected with Taylor-Wharton Iron & Steel Co., High Bridge, N. J., has resigned to accept a post as special representative of The Nugent Steel Castings Co., Chicago, Illinois.

Editorial

Economics Enters the Picture

By ALEXANDER FORWARD
Managing Director

AMERICAN business in the gradual process of regulating itself is coming to a realization of the mistake frequently made of encouraging the establishment of organizations of production where they are unjustified by the economic situation. Very often a field of production is so completely filled that the addition of units means unnecessary risk of new and of already established capital, the creation of over-production in a manner that does the entire body of business no good and a great deal of harm.

Naturally, it is asking a great deal of any town's Chamber of Commerce to refrain from receiving with wide-opened arms any manufacturing establishment which proposes to purchase and erect property and invest money in machinery, equipment and wages, and yet it must come to that. Some day there will be intelligent study of the set-up in every community with appreciation of the relative position which each industry should occupy and some understanding of correlation of production facilities in accord with the needs of the hour. This does not mean that arbitrary decision can be rendered by an off-hand or localized review of the situation, and least of all does it mean any attempt in restraint of trade. All it means is an intelligent appraisal of the elements involved and a decision based thereon.

For instance, under existing circumstances one must know that an individual who does anything towards the encouragement of new companies for the manufacture of domestic gas burning appliances, and especially ranges, should be incarcerated in some institution. Everybody knows that that field is tremendously overdeveloped already and any secretary of any Chamber of Commerce can find it out with a minimum of inquiry. Investment in such a plant in his city can in all probability do him and his principals nothing but harm.

The Chamber of Commerce of the United States of America proposes to give service to local bodies in the shape of reliable information on the conditions surrounding any one manufacturing industry. This will include the collection of all available reliable information on the proposed undertaking, and a non-engineering survey, so that the proponent may be in better position to reach a decision.

In part, this will be a job for The NEW ENGINEER.

Dallas

EVEN at this early date it is apparent that the annual convention of the Natural Gas Department will be a most important gathering.

Members are requested to stand by for further announcements. We predict a program of interest and value to every one in the industry, a record size exhibition, and the largest attendance on record.

Mid-West Industrial Gas Sales Council Is Formed

A REGIONAL gas sales council to handle industrial gas problems only was formed in Chicago on January 27, 1928. This council will be a part of the American Gas Association and will conduct its work through the Industrial Gas Section.

The purpose of the organization is to hold round-table discussions on the various problems that arise in the industrial gas field. The territory covered is unlimited and those interested are requested to send in their names for membership. Programs and notices of meetings will be mailed to members. The council will meet at least four times a year.

The officers elected for the present year are: A. F. Mitchell, chairman, Northern Indiana Public Service Company, Hammond, Indiana; Wm. F. Miller, vice-chairman, Public Service Company of Northern Illinois, Chicago, Illinois; C. B. Mershon, secretary-treasurer, Northern Indiana Public Service Company, Hammond, Indiana.

Chicago Employees Climb Aboard the Safety Wagon

EMPLOYEES of the South Shop of The Peoples Gas Light and Coke Co., Chicago, Ill., have signed the following safety pledge for 1928:

"To have a more definite part in the reduction of accidents during the coming year, we, the undersigned employees of the South Division, pledge ourselves individually and collectively:

"1. To see that the tools and equipment used are kept in proper condition.

"2. To use the safety devices and guards provided.

"3. To watch my step and be especially alert to traffic hazards.

"4. To see that first aid treatment is given for all injuries, no matter how trivial.

"5. To obey all traffic rules when driving and 'play safe' rather than try to out-guess other drivers.

"6. And to do everything else possible to prevent injury to myself or my fellow workers.

"We can make 1928 a 'No Accident Year.' "

Safety Congress Will Be Held at New York in October

THE Executive Committee of the National Safety Council has decided that the Seventeenth Annual International Safety Congress is to be held at New York, Oct. 1, 2, 3, 4 and 5.

Brooklyn Union Chauffeur Is Rewarded for Courtesy

DANIEL McCARTHY, Jr., chauffeur with The Brooklyn Union Gas Company, Brooklyn, N. Y., was awarded first prize for the outstanding act of courtesy during the recent Courtesy Week held in Brooklyn and sponsored by the Brooklyn Motor Vehicle Dealers' Association and the New York *Evening Journal*.

On Sunday, January 8, while driving a gas company car he stopped his automobile and assisted an elderly lady and a child across the street.

Mr. McCarthy has been employed by The Brooklyn Union Gas Company for the past five years.

Nine Companies Start Home Service Activities

SINCE the annual A. G. A. convention in October, the following new Departments have been organized, according to Association records:

Washtenaw Gas Company, Ann Arbor, Michigan; Michigan Federated Utilities, Plymouth, Michigan; Chattanooga Gas Company, Chattanooga, Tenn.; Pocatello Gas & Power Company, Pocatello, Idaho; Portland Gas Light Company, Portland, Maine; Amarillo Gas Company, Amarillo, Texas; Pueblo Gas & Fuel Company, Pueblo, Colorado; Oklahoma Gas & Electric Company, Oklahoma City, Okla.; Florida Power & Light Company, Miami, Florida.

Gas Service Company, the Doherty organization in Kansas City, uses this attractive seal advertising gas on its packages and correspondence. The seal is printed in several colors and is especially attractive and is a good eye catcher

Three of the ten model homes with athletic basements

Model Homes Feature Athletic Basements

Novel Idea Worked Out in Ten Pittsburgh Homes Draws Public to the Basement

SINCE the first home builder stimulated interest among home buyers by placing a sign in the front yard, "Open for Inspection," the model home idea has spread over the country with the quickness of an influenza epidemic. But even new ideas become old in time and model home promoters have constantly been confronted by the question, "What innovation can we discover that will keep the public interested?"

Some have answered the question with souvenirs, church and social organization tie-ups, drawing contests, free transportation, and newspaper advertising.

Gas men have another question that has been hard to answer, "Once people visit the model home, how can we induce them to visit the basement where many of the gas appliances are shown?"

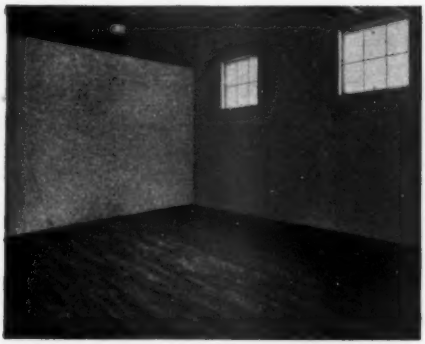
In Pittsburgh, Pa., the question was well answered in the promotion of the "Ten Model Homes With Athletic Basements," carrying the quality sign of the Blue Star Home of the American Gas Association and sponsored by the *Pittsburgh Press*.

Gas appliances making the athletic basements possible

In the basement of each of the homes was built a gymnasium, approximating 20 by 21 feet and high enough for handball and large enough to permit the use of a standard golf driving net, chest weights, punching bag and other athletic equipment.

Featured in the newspaper advertising, the formerly neglected basement found itself suddenly projected into the spotlight and for the first time in the history of model homes in Pittsburgh, the cellar steps resounded with the tramp of feet of thousands of athletically-minded visitors on their way to see this latest improvement in home construction.

And in so doing, joy was brought to the hearts of gas men and gas appliance manufacturers who in the past had watched model home visitors forget the basement entirely. At the ten



The athletic basement

Press model homes, the public saw:

Automatic water heaters, gas-fired boilers, laundry dryers, gas ranges, and radiant heaters.

The first three appliances were installed in the basement.

In northern cities where golf passes from the picture as fall comes and it is inconvenient to patronize club gymnasiums, the athletic basement is a sound home selling idea. Added cost is not prohibitive especially where a sloping terrain lessens excavation work. Cellar height is standard except in the gymnasium which is at a slightly lower level.

Not only will the athletic basement quicken the sale of any home of which it is a part, but to the gas man it is a decided advantage in its attraction of visitors to that part of the house where the advantages of gas are best demonstrated.

Eastern States Conference to Meet April 4-5

Announcement Reveals Imposing Array of Speakers

THE sixth annual meeting of the Eastern States Gas Conference, a Geographic Division of the American Gas Association, will be held on April 4 and 5, in the auditorium of the Public Service Electric and Gas Company's building at Newark, N. J.

This meeting promises to be one of the most interesting ever held by the Eastern States Gas Conference. Among those who will give addresses are: Thomas N. McCarter, President of the Public Service Corporation of New Jersey; Oscar H. Fogg, President of the American Gas Association; Philip H. Gadsden, vice-president of The United Gas Improvement Company and first president of the Eastern States Gas Conference; Alexander Forward, managing director of the American Gas Association; and G. I. Vincent, vice-president of the Syracuse Lighting Company.

On the afternoon of April 5 there will be addresses by H. H. Ferris, general manager of the Public Service Electric and Gas Company, and John L. Conover, President of the New Jersey Gas Association, followed by inspection trips to the accounting department and the new gas plant at Newark.

H. H. Newman

P. H. Gadsden

A banquet will be held on the evening of April 5 at the Robert Treat Hotel, at which the speaker will be Rev. Gill Robb Wilson, National Chaplain of the American Legion.

The officers of the Eastern States Gas Conference are: President, H. H. Newman; first vice-president, C. E. Bartlett; second vice-president, Walter Whetstone; third vice-president, John A. Frick; and secretary-treasurer, J. Calhoun Smith.

T. B. Gregory

J. D. Creveling

N. C. McGowen

J. B. Corrin

Natural Gas Department

Executive

THE Executive Committee of the Managing Committee of the Natural Gas Department consists of the following members:

J. B. Corrin, Hope Natural Gas Co., Pittsburgh, Pa.

J. D. Creveling, Henry L. Doherty & Co., New York, N. Y.

T. B. Gregory, Columbia Gas and Electric Co., Pittsburgh, Pa.

S. W. Meals

Committee

N. C. McGowen, Palmer Corp., Shreveport, La., and chairman of the Natural Gas Department.

S. W. Meals, of the Carnegie Natural Gas Co., Pittsburgh, Pa., and vice-chairman of the Natural Gas Department, acts as a member in the absence of Mr. McGowen.

A. E. Forstall

F. C. Weber

C. E. Paige

W. S. Yard

Advisory Committee on Home Study Course

THE Advisory Committee on the Home Study Course on Manufactured Gas, offered by Columbia University under the auspices of the A. G. A. Committee on the Education of Gas Company Employees, is largely responsible for the excellent progress made by this course. The committee has given unstintingly of its time in reviewing all material used and of its advice in the conduct of the course.

The following are members:

A. E. Forstall, The United Gas Improvement Co., Philadelphia, Pa.

C. E. Paige, The Brooklyn Union Gas Co., Brooklyn, N. Y.

F. C. Weber, The Brooklyn Union Gas Co., Brooklyn, N. Y.

W. S. Yard, Pacific Gas & Electric Co., San Francisco, Calif.

TIDE OF MEN AND AFFAIRS

A. W. Flor Dies

A. W. FLOR, director of public relations of the Electric Bond and Share Company, of New York, and widely known the country over for his interest in publicity and advertising work, died at Phoenix, Arizona, February 6, 1928. He is survived by a widow and four children.

Mr. Flor was born in 1886 and previous to joining the Electric Bond and Share Company, in 1912, was in the Government service in Arizona and the Philippines. By training, Mr. Flor was an accountant and rate specialist, but he early became interested in the committees on public utility information and was an ardent worker in their behalf.

About a year ago Mr. Flor's health began to fail and he was ordered to Arizona. He spent some time in Phoenix, Tuscon, and Silver City, New Mexico. Last Christmas a large number of his friends in the East wrote him letters, and it was thought at the time that his health would soon enable him to take up the organization of a bureau of public utility information for Arizona.

Mr. Flor was the delegate of the Electric Bond and Share Company to the American Gas Association, and was a member of the Managing Committee of the Publicity and Advertising Section.

RALPH B. HAYWARD, well-known figure to eastern gas men, passed away on Jan. 27 at San Diego, Calif. Mr. Hayward was universally known and liked by the gas men of New England, Pennsylvania, New Jersey and New York State—the territory covered by him for the Connelly Iron Sponge & Governor Company for the past fifteen years.

Born in New York forty-six years ago he was educated in Yonkers, N. Y., and after traveling extensively took up the work in the gas industry to which he devoted the rest of his life. During these fifteen years as a director and representative of the Connelly Iron Sponge & Governor Company, Mr. Hayward became an unusually well known and well liked figure to eastern gas men, and news of his death will come as a distinct shock to his many friends in the industry.

Ralph Hayward came from a family of gas men and leaves his father "Governor" Sterling F. Hayward, his two brothers, Harold A. Hayward and Sterling P. Hayward, all well-known figures in the gas industry, as president, secretary and vice-president, respectively of the Connelly Iron Sponge & Governor Company. Besides his father and two brothers, Mr. Hayward is survived by two sisters.

PHILIP MUELLER, of Mueller Company, Decatur, Ill., widely known in the plumbing and gas fitting trade, died January 23, following a stroke of apoplexy on the morning of Jan. 19.

Philip Mueller was born October 16, 1857, and at an early age joined his father and his older brother, Henry, in the plumbing business.

He became a partner in the business in 1886, and has since been actively engaged in the Mueller enterprises in Decatur, as superintendent of the factory, works manager and first vice-president.

MISS GRACE JO MASON, formerly home service director for the Federal Light and Traction Company working in their territories at Springfield, Mo., Tucson, Arizona, Trinidad, Colorado, and New Brunswick, Canada, is now home service director for the Pueblo Gas and Fuel Company, Pueblo, Colorado.

P. V. Byrnes

P. V. BYRNES, President of the Canadian Gas Ass'n, and President of the United Gas & Fuel Co. Ltd., and the Hamilton By-Product Coke Ovens, Ltd., died Jan. 25, 1928, at his home in Hamilton, Ont.

Mr. Byrnes was 69 years old. He was born in Wellsville, N. Y., and after securing his education in that city, entered the oil industry. Mr. Brynes went to Hamilton 23 years ago to take over the management of the Ontario Pipe Line Co.

He was elected President of the Canadian Gas Ass'n at the annual meeting of the association last year.

PAUL C. WIESNER, formerly industrial gas sales engineer of the Adirondack Power and Light Company, Schenectady, N. Y., is now connected with the New York Power and Light Company, with headquarters in Albany, N. Y.

FRANK M. HOUSTON, sales engineer of the Water, Light and Railroad Co., Elmira, N. Y., is now general commercial manager of the New York State division of the Associated Gas and Electric Corporation, with headquarters at Oneonta.

MISS RUBY THOMPSON, formerly with the Walker-Pratt Manufacturing Company, Boston, Mass., is now home service director of the Portland Gas Light Company, Portland, Maine.

CHARLES A. ASHBY, secretary to E. E. Nelson, general superintendent of the Blackstone Valley Gas and Electric Co., Pawtucket, R. I., has been appointed editor of the *Utilitarian*, the company's house organ.

Mr. Ashby was born in Newport News, Virginia, and his home is now in Jacksonville, Florida. After graduation from Georgia Tech. in 1926, Ashby joined the statistics department of Stone & Webster, Inc., at Boston. He was transferred to the Blackstone Valley Gas & Electric Company in 1926.

ANNOUNCEMENT has been made of the election of John J. O'Brien, president H. M. Byllesby and Company, as a member of the board of directors of Harris Trust and Savings Bank, Chicago.

MISS GLADYS PECKHAM, formerly home service director for the City of Norwich Gas and Electrical Department, Norwich, Conn., is now director of the Michigan Federated Utilities, Plymouth, Michigan.

GEORGE H. HECKLER is now manager of the hotel and restaurant division of the Southern California Gas Company, Los Angeles, Calif. Mr. Heckler has been connected with the gas industry for 19 years, 16 of which were spent with The Peoples Gas Light and Coke Company, Chicago, Ill., in the street and engineering and new business departments.

E. E. NORQUIST has been elected president of the Butler Manufacturing Company, Kansas City, Mo., succeeding Charles R. Butler who has been made chairman of the board.

GEORGE L. POLLOCK, vice-president and treasurer of the Burnside Steel Foundry Co., has resigned to become vice-president of the Nugent Steel Castings Company at Chicago. Prior to becoming associated with the foundry industry, Mr. Pollock had served as purchasing agent for several large railroad companies.

WILLIAM N. DAVIS, vice-president of the Phillips Petroleum Company, Bartlesville, Okla., is to serve again as president of the Mid Continent Oil and Gas Association, having been re-elected to this position at the annual meeting recently held in Tulsa.

A. W. AMBROSE, manager of oil production for the Empire Companies at Bartlesville, Okla., has been nominated chairman for 1928 of the Petroleum Division, American Institute of Mining and Metallurgical Engineers.

H. C. Blackwell

HUGH C. BLACKWELL, President of the Union Gas and Electric Company, Cincinnati, Ohio, has been elected president of the Cincinnati Chamber of Commerce. He was a vice-president during the past administration.

Mr. Blackwell resigned as vice-president and general manager of the Kansas City Power and Light Company to accept a similar job with the Union Gas and Electric Company in 1924. Later he was made president. He is 46 years old. He graduated from Purdue University in 1902 and in the same year entered the service of J. G. White & Co. of New York.

In 1906 he went to Davenport, Ia., to assume charge of construction and operation of gas, electric light, and street railway utilities.

In 1917 at Kansas City he was put in direct charge of the Kansas City Power and Light Company's building program. Expenditures during his tenure of office amounted to more than $30,000,000.

R. B. LECKIE, Orange, N. J., now connected with the Semet-Solvay Company of New York City, has been appointed professor of gas engineering at Purdue University, Lafayette, Ind., it has been announced by Dean A. A. Potter of the school of engineering. He assumed his duties on Feb. 1 in a new phase of work undertaken by the school of chemical engineering as a result of the gift last fall of $10,000 annually for five years by the Indiana Gas Association to the university.

Besides giving a series of public and special lectures pertaining to the manufacture of gas, he will spend considerable time in Indiana gas plants studying their problems and giving them the benefit of his experience. He was graduated from the Glasgow Technical College with a diploma in gas engineering. He also holds honors in gas engineering from the city and guilds of London Institute. In 1912, he received a gold medal from the Scottish Gas Association for the best paper in its session that year.

LEWIS S. BAXTER, formerly New York representative for Walker-Pratt Manufacturing Company, has been appointed representative in the Metropolitan district for the Barstow Stove Company, of Providence, R. I. Mr. Baxter maintains his headquarters at 50 Church Street, New York.

Herman Russell

THE recent election of Herman Russell, vice-president of the Rochester Gas and Electric Corporation, to the presidency of the Rochester Chamber of Commerce indicates Rochester's confidence in Mr. Russell's ability and, indirectly, its confidence in the utility which Mr. Russell represents.

These facts are borne out in editorials and news items which recently appeared in Rochester papers. The *Rochester Journal and Post Express* had this to say under the heating, "An Able Leader": "The election of Herman Russell as president of the Chamber of Commerce is not only a deserved recognition of outstanding ability, but its use over a long period for the advancement of the best interests of Rochester."

Mr. Russell rose from the position of assistant superintendent of the company's gas plant in 1905 to the rank of vice-president in 1927, through the following positions: He was appointed superintendent of gas manufacture in 1906, assistant general manager in 1914, general manager in 1919, and was made a vice-president in 1922. He is an officer and director in numerous Rochester banks and organizations.

MISS FAYE C. EVERETT, formerly home service director of the Bangor Gas Light Company, resigned her position early in the Fall, and is connected with the Home Economics Service Corporation of New York City.

ARTHUR KNAPP, petroleum engineer of The United Gas Improvement Company, Philadelphia, has been appointed vice-chairman in charge of economics of the petroleum division, American Institute of Mining and Metallurgical Engineers.

J. J. GRIFFIN has been appointed superintendent of the Iola, Kansas, district for the Southern Kansas Gas Company. He was formerly with the J. B. Kirk Gas and Smelting Company at Iola, Kansas.

MISS ADAH M. COOKE, formerly with Northeastern Power Corporation with headquarters in Rome, N. Y., but who for the past several months has been organizing a home service department for the Utica Gas and Electric Company, Utica, N. Y., is now director of the home service department of the Cheek Neal Coffee Company, Illinois.

THE American Meter Company has announced the appointment of Norton McKean as manager in charge of D. McDonald & Co. of Albany. Mr. McKean has been associated with the American Meter Company for the past sixteen years. He received his preliminary meter training with the Nathaniel Tufts Meter Works of American Meter Company until he was appointed three years ago assistant manager of the Albany factory. Mr. McKean fills the vacancy caused by the resignation of Frederick McDonald, when the latter became vice-president of the New York State National Bank.

ARTHUR E. NORTON, formerly assistant manager of the Nathaniel Tufts Meter Works of American Meter Company, has been appointed to fill the position of manager of this factory. The position of manager of the Boston factory was formerly held by the late H. A. Norton.

JOHN VAN NORDEN, formerly with the McGraw-Hill Publishing Co., Inc., has been appointed an assistant secretary of the American Meter Company. He will be located at New York.

RAWSON COLLIER, Southern representative of the United Gas Improvement Contracting Company, has been elected president of the Atlanta Chapter of the Massachusetts Institute of Technology Alumni Association. Mr. Collier succeeds C. A. Smith, of the Georgia Power Company.

WILLIAM H. BAGLEY, superintendent of the Tulsa city plant of the Oklahoma Natural Gas corporation has been elected president of the Tulsa Rotary club.

Mr. Bagley, formerly vice-president of the Rotary club, is a Tulsa pioneer, having come to Tulsa 22 years ago. His record is unusual in that during the entire 22 years he has been in the employ of the same company.

THE presidency of the Worcester Gas Light Co., Worcester, Mass., passed into outside hands with acceptance of the resignation of Paul B. Morgan, head of the company for several years, and election of J. I. Mange, of New York as his successor.

Mr. Mange is president of the Associated Gas & Electric Co. whose subsidiary, the New England Gas & Electric Association, now controls the Worcester company.

Affiliated Association Activities

Wisconsin Utilities Association

CHAIRMAN F. A. Coffin has appointed the following committee to promote the Blue Star Plan of model gas homes: Ewald Haase, Chairman, A. F. Davey, M. H. Frank, C. S. Mikulesky, E. R. Felber, J. G. Felton and W. R. Lacey.

Chairman Coffin has also appointed a Gas Merchandising Committee with L. M. Thompson as Chairman, a Customers Relations Committee with J. J. Feeney as Chairman, a Home Service Committee with Mrs. Ella Lambert as Chairman, an Advertising Committee with R. O. Jasperson as Chairman, and a House Heating and Industrial Gas Committee with G. H. Head as Chairman.

The Executive Committee of the Wisconsin Utilities Association has scheduled the following section conventions: Accounting Section during week of June 18 at Milwaukee; Electric Section during weeks of July 16 or 23 at Appleton; Transportation Section during week of August 20 at Sheboygan; Women's Conference during week of September 17 at Fond du Lac; and the Commercial Section during week of October 22 at Wausau, Wis.

Illinois Gas Association

THE Illinois State Electric, Electric Railways, and Gas associations will hold their Eighth Joint Convention in Springfield, Illinois, on Wednesday and Thursday, March 14 and 15, 1928. The joint sessions will be held in the mornings at the Hotel Abraham Lincoln. On March 14 the joint session program will consist of addresses by President Oscar H. Fogg of the American Gas Association, President R. P. Stevens of the American Electric Railway Association, Henry Swift Ives on "The Santa Claus in Government," and by Earl Whitehorne, associate editor of *Electrical World*. The program of the second general session on March 15 will be furnished by the Illinois Committee on Public Utility Information and Public Speaker's Bureau.

The Illinois Gas Association will hold its meetings in the afternoons at the Leland Hotel. On March 14 the following papers will be presented: "Are We to Have Gas Refrigeration?" by C. H. Light of The Peoples Gas Light and Coke Company of Chicago; "A Workable Plan for Industrial Gas Sales Promotion in Small Cities," by E. H. Ronsick of the Illinois Power and Light Corporation, East St. Louis, Mo., "High Lights on the Report of the Committee to Cooperate with Educational Institutions," by A. B. Greenleaf of The Peoples Gas Light and Coke Company of Chicago; and "Long Distance Transmission," by L. A. Kirch of the Midland Utilities Company of Chicago.

On March 15 the following papers will be presented before the Illinois Gas Association: "Gas or Service," by H. T. East of the Public Service Company of Northern Illinois, Chicago; "An Economic Survey of the Gas Industry," by W. C. Beckjord, Chairman of the Technical Section of the American Gas Association and vice-president and engineer of the American Light and Traction Company of New York City; and "Rates," by F. A. Newton of the Consumers Power Company of Jackson, Michigan.

The officers of the Illinois Gas Association are: President, P. D. Warren of The Peoples Gas Light and Coke Company, Chicago; vice-president, J. A. Strawn of the Central Illinois Light Company, Peoria; and secretary-treasurer, R. V. Prather, Springfield, Illinois.

Empire State Gas & Electric Association

THE annual meeting of this Association will be held at Saranac Lake, N. Y., Monday and Tuesday, October 1 and 2.

The Women's Section meeting of the Association will be held at Briarcliff Lodge, Briarcliff, Westchester County, on April 12 and 13. This section is composed of women engaged in the gas and electric business throughout New York state. Many interesting discussions on home service and the woman's place in the industry will be given. Miss Marie Reith of the New York Edison Company is chairman of the section and will preside.

The Gas Section of the Association will meet at Briarcliff Lodge on April 19 and 20. The section is divided into five committees, viz.: Water Gas, Carbonization, High, Medium, and Low Pressure Distribution, Consumers Meters and Meters for Large Industrial Customers. These committees have been very active and each will present a report at the Briarcliff meeting. Oliver Smith of the Consolidated Gas Company is chairman of the section and will preside at the meeting.

Pennsylvania Gas Association

THE annual meeting of this association will open with a banquet at the Yorktowne Hotel, York, Pa., at 7 p.m., on Monday, April 9. The President, John A. Weiser, will open the general session at 10 a.m., on Tuesday, April 10, with an address. This will be followed by an address of welcome by Hon. Jacob Weaver, Mayor of the City of York; and Grier Hersh, president of the Pennsylvania Gas & Electric Company, will respond.

A short business session will follow, during which the activities of the association will be reviewed, and reports of representatives on the managing committees of the American Gas Association will be given.

C. I. Crippen, operating manager, of Stephens & Wood, Inc., will give an address on "Merchandising Methods." The morning session will be followed by a luncheon at which it is expected Oscar H. Fogg, president, and Alexander Forward, managing director, of the American Gas Association, will give addresses. There will be music and entertainment at this luncheon. The afternoon session will be devoted to the following: An Accounting paper "Dehydration of Gas" by W. H. Fulweiler of The United Gas Improvement Co., "Public Utility Securities from an Investment Banker's Standpoint," A. C. Allyn of Allyn Company, bankers, Chicago, Ill.; "Cooperation with Educational Institutions," by William R. Young, representing Pennsylvania State College. For the banquet to be held at 7 p.m., arrangements are being made to secure a speaker of national prominence. The entertainment will be supplied by the Pennsylvania Gas & Electric Company.

The meeting to open at 10 a.m. on Wednesday, April 11, will be devoted to the following:

"Servicing of Customers' Appliances"—from the standpoint of: (a) Operating Department, by Paul Fusselman, Philadelphia Suburban Counties Gas & Electric Company. (b) "Future Sales," by J. C. Smith, Consumers Gas Company. (c) "Public Relations"—by H. H. Ganser, vice-president, Philadelphia Suburban Company.

"Pennsylvania Department of Highways vs. Pennsylvania Gas Association," by Samuel Eckels, chief engineer of the State Highway Department:

"Transmission Line Construction Problems"—

(a) Welded Pipe vs. Dresser Couplings.

(b) Valves vs. Cocks, and boxes for same.

(c) State Highway Regulations, by Theodore Pendlebury of the United Gas and Electric Company. There will be discussions on this subject by Messrs. Bair, Naile, Boyer and James, followed by a paper on "Measurement of High Pressure Gas," by John Diehle of the Metric Metal Works, Erie, Pa.

With this interesting program developed by a committee with A. C. Taylor as chairman, President John A. Weiser is looking forward to a large attendance. It is recommended that reservations be made direct with the hotel at once.

Missouri Association of Public Utilities

SECRETARY F. D. BEARDSLEE of this Association announces that the convention will be held in Jefferson City, Mo., April 26, 27, and 28.

Southern Gas Association

THE 20th annual meeting of the Southern Gas Association will be held in Jacksonville, Florida, on April 17, 18, and 19. The mornings will be devoted to general sessions, while the afternoons of the first two days will be given over to meetings of the Technical and Commercial sections. An unusually strong program has been prepared. The following are some of its high spots.

On the morning of April 17, there will be an address of welcome by Hon. John T. Alsop, Jr., Mayor of Jacksonville; and Frank H. Owen, commissioner of Public Utilities, followed by addresses by President P. S. Arkwright and William E. Kay.

The general session on April 18 will be devoted to reports of the secretary and treasurer, and a member of standing committees—Charles S. Reed, rate consultant of the A. G. A., will deliver an address on "Gas Rates," and Harry C. Abell, vice-president of the Electric Bond & Share Company, will address the meeting.

On April 19, in the morning general session, Dr. W. J. Huff will present a report on the Gas Engineering Course at the Johns Hopkins University, followed by the election of officers. Report of time and place committee and an address by Bernard J. Mullaney, vice-president of The Peoples Gas Light & Coke Company of Chicago, and the American Gas Association, will complete this session.

On the afternoon of April 17, the Manufacturing Department of the Technical session will hold a meeting with A. E. Merchant as chairman, while the Industrial Sales Department of the Commercial session will also hold a meeting with Wm. F. Eve, Jr., as chairman.

On the afternoon of April 18, the Distribution Department of the Technical session and the Domestic Sales Department of the Commercial session will hold meetings. On this afternoon there will be a discussion, with Mrs. Beulah Higginbotham as chairman, on the work of the Women's Public Relations Committee and Home Service activities.

The entertainment will be held on the afternoon and evening of April 19, the last day of the convention, and will consist of beach games and bathing during the afternoon, a seafood dinner in the evening to be followed by a dance in the pavilion, with special entertainment. In addition, there will be sightseeing trips and a bridge party for the ladies.

Mid-West Gas Association

THE twenty-third annual convention of the Mid-West Gas Association will be held in Lincoln, Nebraska, on April 18, 19, and 20, with headquarters at the Cornhusker Hotel.

The Program Committee, with H. R. Sterrett as chairman, is preparing an unusually fine program which will be both interesting and entertaining.

The Association covers the states of Iowa, Nebraska, Minnesota, North and South Dakota, and it is expected that the attendance at the convention this year will exceed that of any other year.

Oklahoma Utilities Association

LAST year's state convention registration of 800 is the minimum estimate of the Oklahoma Utilities Association on attendance for the 1928 meeting, which is to be held at Tulsa, March 13-15. The meetings and exhibits will be at the Mayo Hotel.

The Oklahoma association embraces all branches of the utility industry and, in addition to general sessions, there will be division meetings of special interest to the various groups represented in the attendance. General sessions will be held each morning and division meetings in the afternoons.

The Gas Division and the Electric Light and Power Division will hold group meetings on the 13th and 14th. The Telephone Division will meet on all three afternoons of the convention. The Electric Railway Division and the Manufacturers and Suppliers Division will meet on the 14th only. On the 13th there will also be a special meeting of the Public Relations Division, which will interest the public contact men and women of all divisions. On the 14th there will be a Women's Information Committee luncheon, followed by a conference running through the afternoon. The annual business meeting of the Association will be held on the afternoon of the 15th.

The president's reception and annual ball, with special entertainment features, will occur on the evening of the 13th. On the second night the annual banquet will be held. Novel entertainment features always mark this occasion. There will be an address by Hon. Chas. A. Eaton, congressman from New Jersey.

Prominent among the features of the convention will be a discussion of relations between the newspapers and the utilities of Oklahoma by N. A. Nichols, secretary of the Oklahoma Editorial Association; a review of the year and a forecast of the future in public relations by J. F. Owens, vice-president and general manager of the Oklahoma Gas & Electric Company; a discussion of the advantages to public utilities in the work of the associations by Major Alexander Forward, managing director of the American Gas Association, and a statement of progress toward elimination of drudgery in the home by Miss Eloise Davidson, director of home economics, N.E.L.A. Several other speakers of national prominence are expected.

E. L. Rawlins of Bartlesville will discuss cooperative work between the gas association and the United States Bureau of Mines which maintains an experiment station at Bartlesville, Okla. A. A. Higgins of the American Gas Association will explain the Blue Star Home plan. N. C. McGowen, chairman of the Natural Gas Department, will be a speaker. The Gas Conservation School at Bartlesville, sponsored by the Oklahoma Utilities Association, and the Gas Metermen's Short Course held annually at the state university at Norman, Okla., sponsored by the Oklahoma Utilities Association, University of Oklahoma and the Oklahoma Corporation Commission, will be discussed by those attending the Gas Division meeting. John Zink of Tulsa, in charge of industrial heating for the Oklahoma Natural Gas Corporation, will speak on that subject. Logan W. Cary, Oklahoma Gas & Electric Company, will report on personal investigation of gas refrigeration.

Earl R. Ernsberger, president of the Southwestern Light & Power Company, is president of the Oklahoma Utilities Association and will preside at the general sessions. The various division chairmen will be in charge of the division meetings as follows: Gas Division, R. W. Hendee of the Oklahoma Natural Gas Corporation; Electric Light and Power Division, Fred W. Insull of the Public Service Company of Oklahoma; Electric Railway Division, H. B. Cobban of the Northeast Oklahoma Railroad Company; Telephone Division, L. W. Scherer, of the United Telephone Corporation; Manufacturers and Suppliers Division, W. F. Barnes of the Westinghouse Electric & Manufacturing Company, and Public Relations Division, Keith Clevenger of The Empire Companies. Mrs. L. P. Arnold of Tulsa will preside at the women's luncheon on the 14th, and Mrs. Elsie Carter, state chairman of the Women's Information Committee, will conduct the conference program following the luncheon.

New Jersey Gas Association

THE annual mid-year meeting of this Association, held at Trenton, N. J., Jan. 25, proved to be one of the best ever held, establishing a new high record for attendance.

John L. Conover, president, called the meeting to order, and gave a brief résumé of the Association's activities, the healthy state of

the finances, and the growing membership. Hon. A. Harry Moore, governor of New Jersey, addressed the meeting, gave interesting reminiscences of the nine years he spent in the gas business, and outlined for the gas men the challenge the future holds for them. Governor Moore was elected an honorary member of the Association.

The morning session consisted of papers by Dr. A. R. Powell, of The Koppers Co., on "Naphthalene and Gum Removal," by E. B. Dunkak, of The Public Service Electric and Gas Co., on "Determining the Future of the Wholesale Use of Gas"; by Col. Harlow D. Savage, of the International Combustion Eng. Corp., on "K.S.G. Low-Temperature Carbonization System." H. H. Ferris, vice-president of the Public Service Electric and Gas Co., presented the latter paper, and he and J. G. O'Keefe, of the same company, presented extremely interesting discussions of what the experience of the low-temperature installation at New Brunswick, N. J., has been.

Interesting entertainment opened the afternoon session, when a playlet "Service to Satisfy" was presented under the auspices of Miss Ada Bessie Swann. This was followed by papers on "Dehydration of Gas," by G. A. Bragg, of The Koppers Co.; "Rates and the Sale of Gas," by J. P. Leinroth, of the Public Service Electric and Gas Co.

Ample and interesting discussion followed each paper, and there were many comments on the significance of the younger members of the Association in taking active part in discussing several of the papers.

Jacob B. Jones, of Bridgeton, was chairman of the program committee.

Louis Stoecker, of Newark, secretary of the Association, reports that a paper by J. L. Farrell, scheduled for this meeting, will be presented at the Eastern States Gas Conference, in April.

OUR NEW MEMBERS

GAS COMPANY MEMBERS

Huntsville Gas Company, H. G. Crunk, Acting Mgr., Huntsville, Alabama.

Manila Gas Corporation, A. Hoyer, Treas., Manila, Philippine Islands.

North Penn Gas Company, W. H. Richards, V. P., Mill Street, Port Allegheny, Pa.

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Radiantlog Corp., James P. Conroy, Pres., 10 Chelsea Place, East Orange, N. J.

International Combustion Engrg. Corp., Charles McDonough, Mgr. Adv. Service Dept., 200 Madison Ave., New York, N. Y.

Portable Elevator Mfg. Co., I. F. Douglass, Mgr., Bloomington, Ill.

Peter M. Dorsch, Peter M. Dorsch, Prop., 4th & Bryant Sts., N. E., Washington, D. C.

The Youngstown Sheet & Tube Co., W. E. Watson, Vice-Pres., Youngstown, O.

Magic Way Company, G. W. Anderson, Pres. & Gen. Mgr., P. O. Box E, National City, Calif.

J. B. Smith Heating Co., Inc., Jos. B. Smith, Pres., 5426 Santa Monica Blvd., Hollywood, Calif.

Phillips Heating, Ventilating & Mfg. Co., J. A. Martin, Prop., 1710 W. Washington St., Los Angeles, Calif.

Braasch Heater & Mfg. Corp., A. J. Braasch, Pres., 1041 No. Orange Drive, Los Angeles, Calif.

Pacific Gas Radiator Co., D. J. Hartfield, Pres., 7541 Roseberry St., Huntington Park, Calif.

Louis H. Freymouth, Jr., 311 E. Pico St., Los Angeles, Calif.

Foss Heating & Sheet Metal Co., J. W. Anger, Pres., 21 So. Chester, Pasadena, Calif.

The National Cash Register Co., W. A. Outten, Head, Future Demands Dept., Main & K Streets, Dayton, Ohio.

McClary Mfg. Co., J. M. Gunn, Gen. Mgr., Wellington St., London, Ontario, Canada.

Crescent Stove Works, E. F. Diekmann, Gen'l Mgr., 500 Park St., Evansville, Ind.

O'Keefe & Merritt Co., D. S. O'Keefe, Sec'y, 3700 Mines Ave., Los Angeles, Calif.

Eriez Stove & Mfg. Co. of Canada, Ltd., C. S. Bagg, Sec'y-Treas., P. O. Box 1710, Montreal, Can.

Andale Engineering Company, D. Raymond McNeal, Gen'l Mgr., Room No. 740, 1600 Arch St., Philadelphia, Pa.

Allen Manufacturing Company, Neil H. Cargile, Eng., 10th & Union St., Nashville, Tenn.

Jas. Graham Mfg. Co., C. R. Graham, Supt., Newark, Calif.

Atlas Heating & Vent. Co., G. A. Tuck, Pres., 557—4th St., San Francisco, Calif.

Electrogas Furnace Co., W. W. Norton, Mgr., 423 Rialto Bldg., San Francisco, Calif.

Steiger & Kerr Stove & Foundry Co., Andrew Q. Kerr, V. Pres., 2201 Folson St., San Francisco, Calif.

Collier Gas Heating Co., C. W. De Mott, Sales Mgr., 70 Munroe St., Lynn, Mass.

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Rio Grande Valley Gas Appliance Co., Inc., C. H. Seidenglanz, Vice-Pres., 956 Elizabeth St., Brownsville, Tex.

ACTIVE MEMBERS

Howard, Clare H., Central Hudson Gas & Electric Corp., 50 Market St., Poughkeepsie, N. Y.

Jones, Frank H., Schade Valve Mfg. Co., 2527 N. Bodine St., Philadelphia, Pa.

(Continued on page 189)

NATURAL GAS DEPARTMENT

N. C. McGOWEN, Chairman S. W. MEALS, Vice-Chairman

A. G. A. Offers Three Medals

Meritorious Service, McCarter, and Beal Medal Awards

Meritorious Service Medal

THE American Gas Association has three medals with which it honors three different lines of excellence shown by men engaged in the gas industry.

Beal Medal

The A. G. A. Meritorious Service Medal is awarded every year for the most meritorious deed performed during each calendar year. The McCarter Medal is given for successful resuscitations from gas asphyxiation by the prone pressure method. The Beal Medal is given for the best paper on the technical aspects of the gas industry presented at the annual convention.

Natural gas company members, as well as manufactured gas and manufacturer company members, are urged to acquaint themselves with these medal awards. Further information may be secured from A. G. A. Headquarters.

McCarter Medal

MERITORIOUS SERVICE MEDAL

An award of the A. G. A. Meritorious Service Medal is offered for the most meritorious deed performed during each calendar year by an employee of a member company or individual members of the A. G. A. The recipient of this award receives a handsome gold medal and button made available through the generosity of Walter R. Addicks, senior vice-president of the Consolidated Gas Company of New York. The award, made by the Executive Board, is evidenced by an engrossed certificate setting forth the act and presented to the recipient. It is an award to be highly prized by the individual recipient and the company which employs him.

MCCARTER MEDAL

Since the original announcement of the McCarter Medal Award offered in 1924 through the generosity of T. N. McCarter, President, The Public Service Elect. & Gas Co., Newark, N. J., more than 100 Medals have been awarded to gas company employees. The award is offered in order to encourage the resuscitation of persons overcome by gas, by use of the Schafer Prone Pressure Method, and the number of awards has grown from five during 1924 to 45 during 1927.

A certificate, describing the accident and service rendered, is presented to the life saver with the medal, and additional certificates are presented at the same time and place to each employee who has

(Continued on page 185)

Facts Concerning the Life of Pipe

A Comprehensive Consideration of One of the Most Pressing Distribution Problems

By R. G. GRISWOLD
Henry L. Doherty Co., New York, N. Y.

THIS interesting presentation on the life of pipe is printed in this issue of the MONTHLY so that members will have an opportunity to study it and apply it to their own situations and be prepared to discuss it at the Distribution Conference in Chicago April 12 and 13.

Contributions on this subject from others in the industry will be welcomed.—Editor.

THE rate of failure of underground pipe systems is a matter of considerable importance in engineering. The problem is comparatively simple for short lived materials, but for long lived materials we have to depend on nothing much more definite than an opinion, for a good many years, during which time we really need some definite information. For example, gas and water were conducted in wooden pipe in a great many cases, which was apparently very durable, but long before a definite idea of its rate of failure could be obtained, wrought-iron and cast-iron pipe became available, and were universally used, and again, before any considerable part of the wrought iron had failed the standard changed and steel pipe was substituted for it.

In such cases, even if we could wait for the structure to fail naturally and determine its life, the data are of no value because that particular kind of material is, or may be, out of date.

Attention is called to table 1 which is an attempt to set up the theoretical rate of failure of underground piping systems or similar structures. This table has been made on the assumption that the rate of failure corresponds to a probability curve, starting with very small failures in per cent of the original structure shortly after the structure is laid, and increasing first slowly, then rapidly, and then slowly to a maximum, at which time fifty per cent of the original structure has failed. This point we have arbitrarily called the average life. The other half of the structure fails in decreasing percentages (based on the original structure) the curve having exactly the same shape as for the first half. At double the average life the entire structure should have disappeared. These percentages, it must be remembered, are based on the original structure.

To determine the probable average life of the structure from the failures in any one year, we would compute the percentage which the failures in that year represent on the total original structure, and find where this fitted into the table. For example, the number of gas services failing out of all the services laid 17 years before is .377 per cent. Entering the table at 17 years age of failure, we find that the percentage failure falls in the column for an average life of 35 years. You will note that in the column for an average life of 10 years substantially the same figure appears, but a little common sense will indicate whether the average life of this group of services is ten years or 35. The year before, or at the age of 16 years, the failures according to the same table should have been .283 per cent of the total number of services. If this is not the percentage actually found, then either the data are not truly representative or the table is wrong. We see therefore that the accuracy of this table can be tested if we have enough data on failures at various ages to minimize the effect of irregularities and inconsistencies in the

EXPECTED AVERAGE LIFE IN YEARS

Age at Failure	10	15	20	25	30	35	40	50	60	70
0	0	0	0	0	0	0	0	0	0	0
1	.008	.005	.005	.002	.002	.001	.001	.001	.001	.0003
2	.025	.007	.005	.002	.002	.001	.001	.001	.001	.0004
3	.105	.021	.008	.004	.003	.002	.002	.001	.001	.0005
4	.372	.055	.017	.008	.005	.003	.002	.001	.001	.0007
5	1.101	.151	.035	.014	.008	.005	.004	.002	.001	.0009
6	2.719	.295	.070	.026	.013	.007	.005	.003	.002	.0012
7	5.805	.508	.132	.045	.020	.012	.007	.005	.002	.0015
8	9.842	1.168	.240	.077	.032	.017	.010	.005	.003	.0017
9	13.842	2.050	.415	.128	.052	.025	.015	.008	.004	.0022
10	16.598	3.353	.696	.232	.079	.051	.021	.009	.005	.0028
11	18.598	5.000	1.084	.314	.119	.055	.029	.011	.006	.0030
12	13.842	6.914	1.555	.473	.178	.079	.041	.015	.007	.0044
13	9.842	8.917	2.358	.892	.252	.110	.055	.020	.009	.0048
14	5.805	10.368	3.247	.994	.356	.154	.077	.026	.011	.0062
15	2.719	11.245	4.276	1.358	.492	.210	.103	.034	.015	.0078
16	1.101	11.245	5.370	1.880	.670	.285	.137	.043	.018	.0097
17	.372	10.368	6.647	2.389	.890	.377	.181	.056	.023	.0115
18	.105	8.917	7.595	2.995	1.160	.495	.235	.071	.029	.0140
19	.025	6.914	8.108	3.675	1.480	.635	.302	.089	.036	.0173
20	.008	5.000	8.485	4.384	1.865	.800	.384	.113	.044	.0204
21		2.533	8.485	5.078	2.272	1.012	.488	.140	.054	.0250
22		2.080	8.108	5.707	2.728	1.248	.601	.174	.065	.0299
23		1.165	7.595	6.232	3.211	1.515	.738	.215	.079	.0354
24		.608	6.647	6.608	3.703	1.815	.897	.260	.096	.0427
25		.295	5.370	6.805	4.184	2.138	1.078	.314	.115	.0505
26		.151	4.272	6.805	4.603	2.485	1.280	.378	.138	.0599
27		.085	3.247	6.609	5.028	2.845	1.505	.450	.165	.0708
28		.021	2.358	6.232	5.345	3.204	1.744	.535	.193	.0850
29		.007	1.555	5.707	5.564	3.537	2.002	.627	.226	.0970
30		.003	1.084	5.078	5.679	3.802	2.271	.731	.266	.1129
31			.696	4.384	5.679	4.195	2.546	.847	.311	.1316
32			.415	3.678	5.564	4.483	2.824	.975	.359	.1519
33			.240	2.995	5.343	4.659	3.094	1.111	.416	.1752
34			.132	2.389	5.028	4.709	3.353	1.256	.476	.2014
35			.070	1.880	4.603	4.672	3.591	1.415	.543	.2307
36			.035	1.358	4.184	4.572	3.804	1.580	.617	.2628
37			.017	.944	3.703	4.399	3.982	1.751	.697	.2981
38			.008	.492	3.211	4.159	4.121	1.926	.784	.3380
39			.005	.473	2.728	3.853	4.217	2.105	.878	.3807
40			.003	.314	2.272	3.195	4.256	2.281	.976	.4273
41				.202	1.853	3.092	4.256	2.454	1.081	.4786
42				.118	1.480	2.587	4.217	2.622	1.191	.5332
43				.077	1.180	2.204	4.121	2.780	1.306	.5923
44				.045	.890	2.843	3.982	2.927	1.424	.6555
45				.029	.670	2.485	3.804	3.059	1.544	.7222

Table 1: Pipe failures in any year as a percentage of the total pipe in the "generation"

AGE AT WHICH 50% OF THE TOTAL PIPE WILL HAVE FAILED

Age at Failure	10	15	20	25	30	35	40	50	60	70
1	.435	.175	.105	.070	.052	.042	.035	.024	.020	.015
2	1.715	.705	.330	.190	.123	.088	.070	.046	.032	.027
3	2.900	1.280	.715	.410	.250	.170	.118	.073	.050	.036
4	4.180	1.810	1.000	.650	.455	.290	.212	.117	.078	.052
5	5.700	2.510	1.300	.850	.560	.440	.307	.174	.105	.070
6	6.400	2.980	1.600	1.050	.700	.495	.408	.238	.145	.100
7	6.450	3.660	1.900	1.170	.860	.625	.455	.320	.190	.135
8	7.150	4.180	2.250	1.420	.960	.750	.545	.350	.230	.160
9	7.300	4.230	2.700	1.580	1.070	.750	.650	.390	.265	.210
10	7.300	4.600	3.000	1.850	1.240	.900	.650	.440	.300	.225
11	7.300	4.700	3.100	2.080	1.580	1.000	.780	.500	.340	.240
12	7.300	4.800	3.300	2.370	1.580	1.150	.820	.550	.388	.255
13	7.180	4.850	3.450	2.450	1.780	1.150	.900	.550	.420	.295
14	6.980	4.850	3.500	2.550	1.900	1.350	1.000	.620	.430	.330
15	6.400	4.950	3.500	2.650	2.000	1.480	1.070	.680	.440	.350
16	5.700	4.950	3.600	2.750	2.100	1.600	1.180	.740	.520	.370
17	4.150	4.850	3.600	2.770	2.150	1.720	1.280	.780	.550	.370
18	2.900	4.850	3.650	2.800	2.150	1.750	1.420	.820	.540	.410
19	1.715	4.800	3.700	2.850	2.250	1.750	1.450	.880	.610	.450
20	.435	4.700	3.700	2.900	2.350	1.850	1.510	.950	.650	.450
21		4.600	3.700	2.900	2.350	1.950	1.550	1.000	.640	.500
22		4.250	3.700	2.900	2.350	1.920	1.590	1.080	.740	.500
23		4.150	3.650	2.850	2.400	1.980	1.620	1.150	.770	.550
24		3.550	3.600	2.950	2.400	2.000	1.680	1.190	.780	.550
25		2.250	3.600	2.950	2.400	2.020	1.700	1.200	.810	.600
26		2.510	3.500	2.950	2.400	2.030	1.750	1.250	.870	.600
27		1.810	3.500	2.950	2.450	2.050	1.750	1.250	.950	.600
28		1.280	3.450	2.950	2.450	2.050	1.750	1.300	.970	.700
29		.705	3.300	2.900	2.450	2.050	1.750	1.300	1.000	.750
30		.175	3.100	2.900	2.500	2.100	1.750	1.350	1.050	.780
31			3.000	2.900	2.500	2.100	1.800	1.380	1.050	.780
32			2.700	2.850	2.450	2.100	1.800	1.370	1.060	.820
33			2.250	2.800	2.450	2.100	1.800	1.420	1.050	.820
34			1.900	2.770	2.450	2.100	1.800	1.400	1.100	.850
35			1.600	2.750	2.450	2.100	1.800	1.400	1.100	.900
36			1.300	2.650	2.410	2.100	1.800	1.400	1.100	.900
37			1.000	2.550	2.400	2.100	1.850	1.400	1.140	.900
38			.715	2.450	2.400	2.100	1.850	1.450	1.140	.900
39			.530	2.370	2.350	2.100	1.850	1.450	1.140	.900
40			.105	2.080	2.350	2.100	1.850	1.510	1.180	.900
41				1.850	2.350	2.100	1.850	1.510	1.190	.950
42				1.580	2.250	2.050	1.850	1.515	1.190	.950
43				1.420	2.150	2.050	1.850	1.520	1.190	1.000
44				1.170	2.105	2.050	1.850	1.520	1.190	1.000
45				1.050	2.150	2.050	1.850	1.520	1.190	1.000

Table 2: Based on Empirical Data. Pipe failures in any year as a percentage of the total pipe in the "generation"

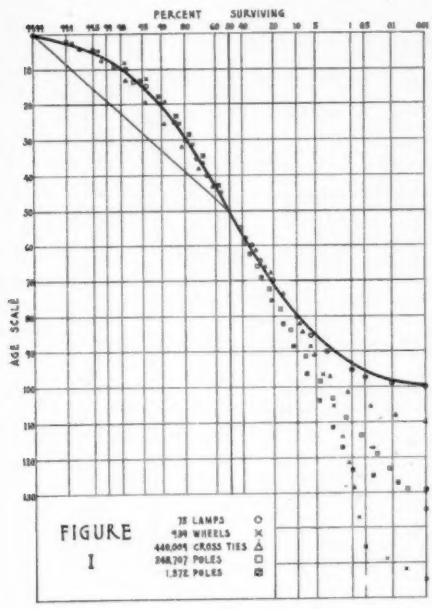


Figure 1

data. For this purpose we have the data from a large gas company which show the number of services laid and all the failures of those services, and when the failures occured, for a period of 25 years. We also have some similar data from another gas company on two-inch black steel gas mains covering about 20 years.

In figure 2 we show the results of applying these data to table 1 to get the average life of the pipe. For example, for wrought iron services failing in the 29th year, the point is in the upper left-hand corner of the figure. In this case 76 services failed in 1927 out of 27,713 that were laid in 1898, making a percentage of .27 and giving an indicated average life of 58 years. The next point to the right was determined from the fact that 52 services failed in 1926 out of the 27,713 laid in 1898, and also that 63 services failed in 1927 out of 37,102 laid in 1899, making a total of 115 services that failed in the 28th year out of 64,815, making the percentage .177 and the indicated average life 61 years.

Each succeeding point to the right has an increased number of services as a divisor, until for failures in the 21st year we have as a divisor 191,121 services with failures of 161, making the percentage

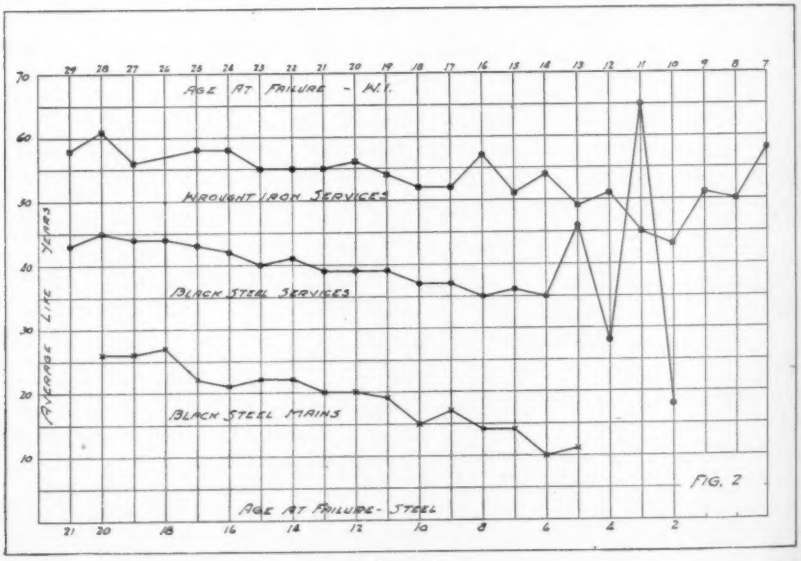


Figure 2

.084 and the indicated average life 55 years. This divisor was used to and including the point for failure in the 13th year. You will note from the plotted points for all three sets of data that the average life shows a tendency to increase as the age at failure increases. This is so obvious that the accuracy of the table may be suspicioned. In an effort to make a still further check on the table, a paper by Professor Edwin Hurtz of Iowa State College, Ames, Iowa, appearing in *Administration* for July, 1921, was consulted. This article gives data covering the complete life history of a number of engineering structures, all of them, however, having much shorter lives than underground pipe. In figure 1 the actual rate of failure of some of these structures has been plotted. In making this plot the point at which 50 per cent of the structure had failed was in all cases made equal to 50 on an arbitrary age scale. The curve on this chart corresponding to table 1 is shown as a diagonal straight line. Of the four kinds of structure used in making this plot the lamps are probably the only

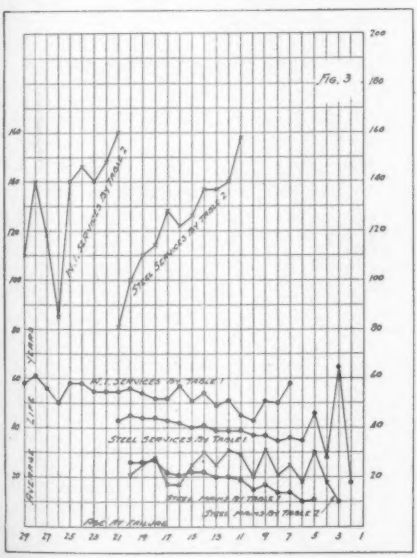


Fig. 3
Steel Services by Table 2
Steel Services by Table 1
RC Services by Table 1
Steel Services by Table 1
Steel Mains by Table 2
Steel Mains by Table 1
Age at Failure

Figure 3

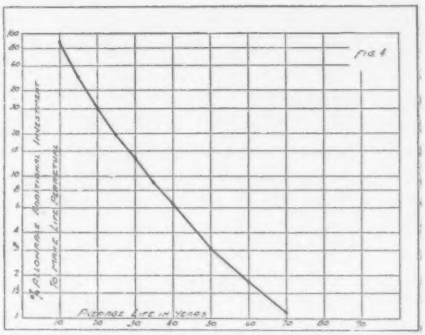


Figure 4

ones that are allowed actually to fail. The other three fail by inspection, so to speak, and it is easy to understand that there is more or less of a human element injected into the data for those structures. Not all of the data in Professor Hurtz' paper was used, but only the data on those structures which seem to follow a similar general law. Each of the other structures seem to follow a law of its own, probably due to some other influence than the natural rate of decay. Therefore the probable rate of failure was assumed to be according to the "S" shaped curve, and table 2 has been made to show the rate of failure corresponding to this curve.

When the data for the two-inch mains are applied to table 2, we get a more uniform average life value, showing no particular tendency up or down. This value corresponds to the average life found by using table 1 when using the latest data of failure. That is to say, using table 1 the life of two-inch mains seems to increase from about 15 years for the earlier half of the data that we have, approaching 25 years for the last half of the data that we have. Using table 2, however, the average life obtained seems to fluctuate around 25 years for substantially all of the data. This would indicate that table 2 is a better table than table 1. However, if we apply table 2 to the data on the two sets of services, we find that the average life increases to 100 years and

more, and furthermore, shows a most decided tendency to give decreasing values as the age of failure increases, the rate of decrease being much greater when using table 2 than the rate of increase when using table 1. These results are shown in figure 3. The only conclusion we can draw from this is that service pipes do not fail in accordance with table 2 or in accordance with the structures reported on by Professor Hurtz.

I feel that table 1 is more reliable than table 2, but I am not entirely satisfied with either one. With considerably more data from other sources available, it may be possible to make a table that will give more consistent results.

Until enough data have been collected to permit the preparation of a new table that will give substantially more consistent results than table 1, I recommend table 1, and urge every gas man to use it on his own property on services, steel mains, or cast mains. It may be used on parts of a distribution system where the corrosive conditions differ to get the effect on the life of the pipe, and may indicate that a protective coating is justified in one soil and not in another. Different coatings can be compared and results obtained long before a substantial part of the system has failed. Just how delicate a test this is may be appreciated from the fact that the long series of data on wrought iron pipe shown on figure 2 is taken from the total failures amounting to less than 1¼ per cent of the services involved, and that on black steel services represent less than two-thirds of one per cent, and even the black steel mains represent less than 6½ per cent.

Assuming that figure 2 gives us a fairly definite idea of the relative rate of failure of black steel and wrought iron, we may proceed as follows to determine whether or not we are justified in buying the more durable material. Taking an average life of ten years, you will note that .006 per cent failed the first year (see table 1). All services in similar conditions or an equivalent number of services will continue to fail at that short interval. To maintain these services perpetually we may either set aside a sum of money sufficient so that the interest accumulations will always make these renewals, or we may expend more money on the original service in the form of different materials or protective materials, or protective construction, to make it last perpetually. The rate of return allowed by public utility commissions is or closely approaches eight per cent. We have therefore used eight per cent interest on these computations. To take care of these failures this first year, we must then set aside a sum of money so that the interest at eight per

(Continued on page 181)

New Ovencraft Booklet

OVENCRAFT is the latest booklet of the N. Y. Regional Sales Council. It is being used by the Council as a vital part in its radio program. Copies are sent to interested housewives who tune in on the radio lectures on homemaking

Member companies of the A. G. A. may purchase quantities of Ovencraft at $.15 a copy or less, depending on quantity. Requests for sample copies should be sent to the Edelmuth Co., 16 East 13th St., New York, N. Y.

ACCOUNTING SECTION
EDWARD PORTER, Chairman F. H. PATTERSON, Vice-Chairman
H. W. HARTMAN, Secretary

Predetermining Fire Insurance Rate for New Construction

By HARRY ANDERSON
Chairman, Insurance Committee; The Peoples Gas Light & Coke Co., Chicago, Ill.

THE fire insurance premium to be paid after completion of an investment project is rarely considered when plans are prepared, but it can be predetermined as readily as any other operating expense.

The fire insurance interests are thoroughly organized throughout the United States for rendering efficient and helpful service to our industry, without charge or obligation, through their rating organizations and inspection bureaus. This service consists of the examination of plans for the purpose of advising and suggesting fire resistive construction, fire protection, and plant layout to give the greatest protection at a minimum premium cost and will be found both indispensable and profitable. Some opposition to this practice may be encountered, but there is a great deal to gain in following the plan through.

The saving in premium due to following the advice and suggestions given will accrue as long as insurance is purchased and will offset the additional cost (if any) required by the changes in plan or layout which may be suggested. Aside from the saving in premium, and probably more important, is the fact that everything has been done to assure continuous and uninterrupted service.

Following is a list of rating organizations and inspection bureaus, the territory controlled by each and the names and addresses of those in charge. Any of them will be glad to be of service. However, if any difficulty is met, the A. G. A. Insurance Committee should be advised.

Name	*Address*	*Territory Controlled*
New England Ins. Exchange Ralph Sweetland, Secy.	Boston, Mass. 14 Oliver St.	Maine, Vermont, Massachusetts (except Boston Metropolitan District) Rhode Island (except Providence) Connecticut
Boston Board of Fire Underwriters Wm. H. Winckley, Mgr.	Boston, Mass. 40 Broad St.	Boston & Metropolitan District (including Arlington, Belmont, Brookline, Cambridge, Chelsea, Dedham, Everett, Lexington, Malden, Medford, Melrose, Milton, Needham, Newton, Quincy, Revere, Somerville, Stoneham, Wakefield, Waltham, Watertown, Wellesley, Weston, Westwood, Winchester, Winthrop, and Woburn
New Hampshire Board of Fire Underwriters L. Clarner, Jr., Secy.	Manchester, N. H.	State of New Hampshire
Insurance Association of Providence Edw. Devine, Secy.-Treas.	Providence, R. I.	City of Providence

Name	*Address*	*Territory Controlled*
New York Fire Insurance Rating Organization Wm. J. Ward, Secy.	New York City, N. Y. 85 John St.	Representing N. Y. State with 4 main subdivisions as follows:
New York Fire Insurance Exchange Willis O. Robb, Mgr.	New York City, N. Y. 85 John St.	New York City
Suburban Division, New York Fire Insurance Rating Organization Wm. F. Chase, Mgr.	New York City, N. Y. 85 John St.	New York Suburban territory as follows: Counties of Rockland, Putnam, Westchester, Nassau, and Suffolk; so much of the Boro of the Bronx as lies east of the Bronx River; and all of the Boroughs of Queens and Richmond, except such portions thereof as are under the jurisdiction of the N. Y. City Division, viz.: Long Island City and the American Dock Stores
Syracuse Division, New York Fire Insurance Rating Organization Lawrence Daw, Mgr.	Syracuse, N. Y. 400 E. Genesee St.	All of N. Y. State not under control of the other 3 divisions
Buffalo Division, New York Fire Insurance Rating Organization E. H. Sigison, Mgr.	Buffalo, N. Y. Marine Trust Co. Bldg.	Buffalo, Kenmore, Tonawanda, North Tonawanda, Wheatfield, New York
Schedule Rating Office of New Jersey Leon A. Watson, Expert	Newark, N. J. 31 Clinton St.	State of New Jersey
Philadelphia Fire Underwriters Association J. S. Trump, Secy.	Philadelphia, Pa. 131 S. 4th St.	City of Philadelphia
Philadelphia Suburban Underwriters Association A. P. Stradling, Mgr.	Philadelphia, Pa. 331 Walnut St.	Philadelphia Suburban Counties of Bucks, Chester, Montgomery, Delaware, Pa.
Underwriters Association of the Middle Department Louis Wiederhold, Jr., Secy.	Philadelphia, Pa. 414 Walnut St.	All of Pennsylvania not otherwise controlled, also Delaware & Maryland except City of Baltimore and within 5 miles of same
Board of Fire Underwriters of Allegheney County R. J. Trimble, Secy.	Pittburgh, Pa. Commonwealth Bldg.	Allegheny County including Greater Pittsburgh and New Kensington, Parnassus and Arnold in Westmoreland County
Association of Fire Underwriters of Baltimore City John H. Kenney, Secy-Mgr.	Baltimore, Md. 8-10 South St.	Baltimore City, Canton, Highlandtown & territory within 5 miles of Baltimore
Underwriters Association of the District of Columbia Edw. R. Hardy, Mgr.	Washington, D. C. Woodward Bldg.	Washington, D. C.
T. B. Sellers, Mgr., Columbus, O.	Branch offices at Wheeling and Charleston, W. Va.	West Virginia
Southeastern Underwriters Association A. M. Schoen, Chief Eng. Jos. S. Raine, Secy.	Atlanta, Ga. (Branch offices in each state)	Alabama, Florida, Georgia, North & South Carolina, Virginia
Mississippi State Rating Bureau	Jackson, Miss.	State of Mississippi

(Continued on page 186)

PUBLICITY AND ADVERTISING SECTION

E. FRANK GARDINER, Chairman JAMES M. BENNETT, Vice-Chairman
CHARLES W. PERSON, Secretary

Soap Makers Start Cleanliness Program

(Continued from page 154)

health consultant of Cleanliness Institute, he is now engaged in further developing its health program, in weighing the scientific material developed by the Institute, and in enlarging the contacts of the organization with health and other agencies.

Another important activity is the work of Cleanliness Institute library, organized under the able direction of Miss C. Margaret Munson, and now conducted by Miss Marie K. Pidgeon, B.L.S., of wide experience in governmental and specialized library fields. An outstanding task has been the compilation of a bibliography of two hundred books on cleanliness, now in large demand by general libraries, health and social service organizations.

The popular educational campaign for soap and water cleanliness, which began, coincidentally with the formal inauguration of Cleanliness Institute, was based upon a well considered program of publicity.

Through the daily press, through the general magazines, through health publications, and social service publications, by means of educational items directed to the woman in the home, editorial articles in the newspapers, special feature contributions and other forms of written appeal, Cleanliness Institute is preaching the gospel of higher cleanliness standards. Through the publication of *Cleanliness Journal,* the Institute maintains steady contact with more than 7000 health officers, health and social service organizations, civic leaders, and writers on household economics and kindred subjects.

The essential news interest of the movement, the dignity and force of its appeal, and its obvious public service, insured a splendid welcome to the work of the organization. Although this popular educational program has been in operation for less than one year, more than

Cleanliness Institute is busy selling the idea of cleanliness

four hundred leading newspapers of the country have commented editorially in favor of the aims and purposes of Cleanliness Institute, more than twelve hundred newspapers in every state in the Union have published its releases, and more than 35,000,000 readers are represented in the circulation range of the already published material.

The most recent move in the work of Cleanliness Institute is a nation-wide advertising campaign in magazines and newspapers, beginning with February. Addressed to masses of readers whose cleanliness habits are susceptible to improvement, full page advertisements in most cases are now appearing, which appeal to their normal, every-day desires for a better job, for better social position, for attractiveness and popularity, the desire to "keep up with the Joneses," and to give their children the best advantages. With

the attainment of these desires, the copy will show, cleanliness is intimately bound up. Texts of some of these "cleanliness sermonettes" indicate the nature of their appeal:

"Self-respect thrives on soap and water." "There's health and wealth in soap and water." "Fall in love with soap and water."

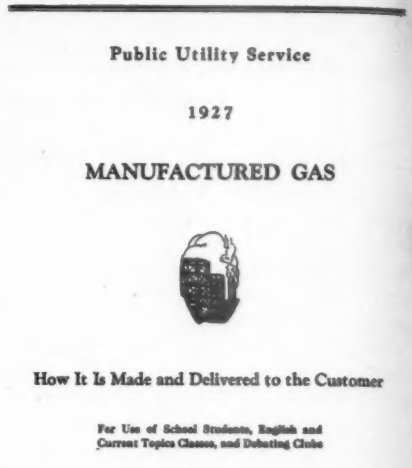
Telling their story chiefly by pictures, the advertisements carry brief pointed messages. Each is complete in itself, yet part of a series so conceived as to create an expectancy and interest in the advertisements that follow. The couplet "soap and water," which is as natural and colloquial as "bread and butter" or "Jack and Jill," appears with varying phrase or slogan on each piece of copy. The variety of cleanliness messages that can be presented in this form is practically unlimited.

They will appear in newspapers and in magazines of popular general appeal, women's magazines, industrial magazines, and periodicals devoted to fields of health, social service, and education. Part of the space in the industrial magazines will be used to advertise three-color posters which Cleanliness Institute is distributing free to large employers for display in wash rooms.

The greater cleanliness campaign has been underwritten for an initial period of three years through pro rata pledges based upon the tonnage of yearly soap sales. Upon this basis it is expected that the investment of the industry will approximate $1,500,000. Of this total, $450,000 has been appropriated for magazine and newspaper advertising during 1928. For the work of the Institute, which began last June, $117,000 was appropriated during 1927, and $183,000 has been set aside for 1928.

P. U. A. A. Meets in July

THE annual convention of the Public Utilities Advertising Association and the International Advertising Exposition will be held at Detroit, Mich., July 8 to 12.


Public Utility Service

1927

MANUFACTURED GAS

How It Is Made and Delivered to the Customer

For Use of School Students, English and Current Topics Classes, and Debating Clubs

Issued by
NEW ENGLAND BUREAU OF PUBLIC SERVICE INFORMATION
24 Milk Street - - - Boston, Massachusetts

Reproduction of the school pamphlet on gas—more than half a million copies of the four pamphlets have been distributed

1928 School Pamphlets Will Be Available Soon

PLANS are being made to distribute sample copies of the 1928 edition of the school pamphlet on the gas industry sometime early in April. This new edition will cover the natural and manufactured branches of the industry. It will contain a large amount of new matter and several valuable charts showing the manufacturing and distributing departments of the business.

Members of the Association, who are cultivating contacts with school children in an endeavor to bring about a better understanding of the business, should be prepared to place their orders promptly after receiving sample copies of the pamphlet.

BINDERS for the A. G. A. MONTHLY may be secured from Headquarters. These binders are of durable construction, stamped front and back in gold. A special binding device makes it possible to insert and remove copies easily. The price is $1.00 a binder.

Every member should own one. It is the only way in which the file of MONTHLIES can be kept intact.

MANUFACTURERS SECTION

H. LEIGH WHITELAW, Chairman J. A. FRY, Vice-Chairman
C. W. BERGHORN, Secretary

Facts Concerning the Life of Pipe

(Continued from page 176)

cent will pay for the renewals. If the unit cost of replacement is the same as the original unit cost, then the interest on this sum set aside for renewals must yield .006 per cent of the original cost. In other words, an endowment fund must be established which at eight per cent will take care of these renewals. The endowment set aside for renewals every second year will earn eight per cent compounded for two years, and for every third year, compounded at eight per cent for three years, etc. The sum of these various endowments set aside to provide interest to make the renewals on a ten-year average life represents 88 per cent of the original cost. In other words, if the untreated service pipe had an average life of only ten years, we would be justified in paying 88 per cent more in order to get perfect protection, making the life of the service perpetual.

In the same way the figures shown in table 3 and figure 4 are derived for the other average lives in table 1. Now, if black steel pipe has an average life of 40 years, and wrought iron has a life of 60 years, we can afford to pay for this longer life the ratio of $\frac{1.0643}{1.0180} = 1.045$ times the first cost of the steel pipe, or 4½ per cent more. That is, a certain number of black steel services costing say $1000 would be just as economical as the same number of services of wrought iron costing $1045.

This analysis, of course, has to do only with natural corrosion due to soil, electrolysis, etc., and does not take into account obsolescence or inadequacy. That is to say, if the service is laid into a private house and before the black steel service fails the house is torn down and replaced by an apartment house requiring a larger service, the longer life of wrought iron pipe would be of no value.

TABLE 3

Average Life-Years	Per cent Additional Investment to Make Life Perpetual
10	88.0
15	49.3
20	30.0
25	19.8
30	13.3
35	9.06
40	6.43
50	3.13
60	1.80
70	1.10

It is very questionable whether more than a very few distribution engineers can report accurate data from their records which would permit the use of such a table as is described here, and yet it seems that the value of such data should make it very desirable for every distribution engineer to revise his records, if necessary, or add to them so that these data can be made available to him.

There are three things that such data must show. First, the data must show the age at failure. This requires records that can be relied on to identify each service or other unit being used, and to assure that this is the first renewal. Then we must have the percentage failure. This requires the second and third quantities, the second being the total failures of that age of failure. It is of no value to identify only a part of the failures because that would give an incorrect percentage. Third, we must know all the services originally laid that could have contributed to the failures. In other words, it is just as important to know what services did not fail at the age in question as to know how many did.

It will be noted that some of the average life values found by using table 2 and shown on figure 3 are much greater than the values actually shown on table 2. The percentage for the 28th year age of failure for wrought iron is .177. This

extends beyond the limits of table 2. It may be of interest to know how this extrapolation was made.

Assuming the factor of two, the percentage failure was multiplied by this factor, giving a value of .354. The age of failure was divided by this factor making it the 14th year. This new percentage failure in the 14th year falls in the 70-year average life column. This value again is multiplied by two giving the extrapolated average life as 140 years. This method is based on the fact that the sum of the failures in say, the 19th and 20th years of the 40-year average life column, is always equal to the 10th year of failure in the 20-year average life. This will be found to be almost exactly true on table 2 which has not been as carefully prepared as table 1, but in table 1 will be found to check exactly.

Statistics—Relation to Management

(Continued from page 158)

In summary then, it may be stated that in addition to being of value to governmental bodies, bankers, investors and the general public, proper accounting and statistical activities are of major importance to the management of the gas utility. For it is the management that is charged with the responsibility of conducting wisely and economically the affairs of the utility, and such responsibility involves an endless series of executive policies and decisions if the service and usefulness of the concern is to be maintained in constant adjustment with the ever-changing needs and demands of the community it serves. While the conduct of any business enterprise is ultimately a matter of judgment, one of the most significant tendencies in the entire field of business administration is the extent to which executive judgments are being based less and less upon hunch and guesswork, but to an ever increasing degree upon all of the sound, accurate and complete information which it is within the potentialities of accounting and statistical science to provide.

Smoked In

WITH winter coming on and all the furnace fires going, Chicago prepares to crawl under its annual blanket of smoke. We shall not see much of the sun until next spring.

A study of the decrease of sunlight on account of smoke, made in New York by the federal public health service, shows that the average loss of daylight during January was 18 per cent at noon and 42 per cent at 8 a.m. The effect of the winter fires is shown by the fact that in June the loss at noon was 6 per cent and at 8 a.m. 33 per cent. In terms of illumination, another study has shown that a bright noonday in midsummer is nearly three times as bright as a bright noonday in midwinter.

This lost sunlight is lost health, happiness and efficiency. What official attempt at cutting down Chicago smoke is going to be made this winter?—Editorial, *Chicago Tribune.*

New England Plans Advertising

(Continued from page 136)

it by every gas company in New England. Since no individual company can achieve successful growth greatly out of proportion to the growth of the industry, let each member recall that his aims are identical with those of the New England Gas Association.

Our problems in New England are, however, more regional in character than those of the industry throughout the country in general. We are, perhaps, more closely knit, followers of the same traditions, having the same needs. The problem, therefore, of co-operative advertising in New England is beset with fewer difficulties than nation wide co-operative advertising throughout the country. Our efforts, however, in a New England industry campaign should be in no way antagonistic to whatever plans are now, or may be, developed by the American Gas Association.

If these things are true, let them be understood; let them be accepted by everyone; let them be the object of our united endeavors from salesman to executive. Let us all work for the success of this campaign to the end that a big, continuous, satisfying growth in the use of *Gas, The Better Fuel,* may occur.

INDUSTRIAL GAS SECTION

F. C. MACKEY, Chairman J. P. LEINROTH, Vice-Chairman
C. W. BERGHORN, Secretary

A. G. A. Exhibits at Ceramic Show

Has Booth at Atlantic City Meeting of the American Ceramics Society, Feb. 5 to 9

THE booth of the American Gas Association at the exhibit held in conjunction with the meeting of the American Ceramics Society, at Atlantic City, N. J., Feb. 5 to 9, attracted a great deal of attention from the attending ceramists and stimulated interest in gas as a fuel for this important branch of American industry. There was an attendance of more than 300 at the meeting.

WHAT WAS SHOWN

The principal item of the A. G. A. exhibit consisted of products of the Koken Co., St. Louis, Mo. These products, made in gas-fired furnaces without muffles, were colored vitreous enamel, cast iron, barber chair parts, etc. Since the work of enameling without muffles is a comparative innovation, the products displayed attracted much interest, and provoked many questions from the visiting ceramists.

Another of the exhibits included vitreous enamel thermometers, manufactured by the American Thermometer Co., of St. Louis, Mo.

OIL PAINTINGS

Keen interest was shown in the oil paintings of the A. G. A., two of which were used in the booth. The paintings were changed every day, and C. G. Segeler, of the Headquarters Staff, who had charge of the booth, reports that these paintings did much to arouse a "gas consciousness."

A. G. A. Booth at the Atlantic City Ceramic Exhibit

Harvard Business School Undertakes New Project

THE Harvard Business School has announced a Special Session for Business Executives to be given at the school during the coming summer.

The following subjects will be available: Accounting Policies; Business Policy and the Law; Finance; Marketing, Sales Management, and Advertising; Marketing, Retail Store Management, and Advertising; Public Utility Management and Economics; and Railway Transportation.

Each course will require the full time of the student, and classes will meet for four hours daily. The case method involving informal discussion of actual business problems will be followed.

The course in "Accounting Policies" will be in charge of Prof. W. M. Cole, Prof. T. H. Sanders, Asst. Prof. A. W. Hanson, and H. N. Sweet of Lybrand, Ross Brothers and Montgomery in Boston.

"Business Policy and the Law," which will aim to bridge the gap between law and business, will be offered by Prof. Nathan Isaacs, and Earl G. Wolaver, Asst. Prof. of Business Law in the University of Michigan. "Finance" will be given by Prof. Arthur Stone Dewing, and Asst. Prof. C. E. Fraser. The two courses in marketing will be in charge of Prof. M. T. Copeland, Prof. H. R. Tosdal, Prof. H. T. Lewis, formery Dean of the School of Commerce at the University of Washington, Assoc. Prof. M. P. McNair, and Asst. Prof. N. H. Borden.

"Public Utility Management and Economics" will be in charge of Prof. Philip Cabot, and Deane W. Malott, Instructor in Public Utility Management. This course was given last summer, with thirty-five public utility executives from all parts of the country in attendance, and as a result of its success, the special session for the coming summer was undertaken.

"Railway Transportation" will be given by Prof. W. J. Cunningham, and Prof. W. M. Daniels of Yale University.

The special session will be primarily for business men, but a limited number of teachers of business will be admitted.

Gas Heats Chicago Churches

(Continued from page 138)

for the fuel before it is burned or for space to store the fuel.

As was mentioned above, the boiler room of the Bethel Lutheran Church is used for a kitchen and the space occupied by the heating plant in St. Gregory's Church and in St. Luke's Lutheran Church is reduced to a minimum.

A seven-section steam boiler has very recently been installed in the Edgebrooke Community Church. In this installation the heating system was installed entirely as designed by us, and the unit heater system is used with a fan to circulate the warm air. It is too soon to have data on this, but we are watching it closely and we will prepare data as soon as it is available.

This system is different from any of the three already referred to, but has all of the advantages of these other systems. It also has the advantage of distributing the heat quickly and evenly and occupies very little space.

ST. LUKE'S LUTHERAN CHURCH, 2647—49 FRANCISCO AVE.

Meter Was Read On	*Cu.Ft. Used*	*Net Charge*
October 21, 1926	Meter set	
December 2, 1926	90,200	$ 68.83
December 31,	93,000	70.57
February 1, 1927	93,400	70.87
March 4,	103,200	78.22
April 2,	80,000	60.82
May 3,	61,600	47.02
June 2,	14,600	11.77
Total	536,000	$408.10

BETHEL LUTHERAN CHURCH, 4211 WEST END AVENUE

Meter Was Read On	*Cu.Ft. Used*	*Net Charge*
September 25, 1926	2,800	$ 2.73
October 26,	24,400	19.12
November 24,	61,200	46.72
December 27,	132,800	100.42
January 26, 1927	131,200	99.22
February 24,	88,600	67.27
April 1,	96,200	72.97
April 26,	42,600	32.77
May 26,	21,200	16.72
June 24,	2,000	2.12
Total	603,000	$460.06

ST. GREGORY'S CHURCH 1642-52 GREGORY STREET

Meter Was Read On	*Cu.Ft. Used*	*Net Charge*
Set Oct. 1, 1926		
October 22,	6,000	$ 5.07
November 22,	217,200	163.72
December 23,	564,200	423.97
January 22, 1927	450,800	338.92
February 23,	394,800	296.92
March 24,	232,200	174.97
April 23,	158,600	119.77
May 24,	34,800	26.92
Total	2,058,600	$1550.26

COMMERCIAL SECTION

J. J. BURNS, Chairman G. M. KARSHNER, Vice-Chairman

J. W. WEST, Jr., Secretary

Merits of Gas Explained to Plumbers

A. G. A. Cooperates with Three-Day Institute of New York State Master Plumbers

THE American Gas Association played an important part in the first annual three-day institute of the New York State Association of Master Plumbers, held at the College of Engineering, New York University, January 23 to 25.

Topics of vital interest to the master plumbers were considered. Among these was "Domestic Hot Water Supply—Yesterday and Today," by C. W. Farrar, President, Excelso Products Corp. Mr. Farrar discussed the development of water heating, and described modern methods and appliances.

Every day of the institute, between 12 noon and 2:15, there were individual sessions at which the subjects of gas refrigeration, gas house heating, and gas large volume water heating were discussed by representatives of the American Gas Association. The attendance at these sessions averaged 160.

Refrigeration by gas was covered by A. Rathemacher, member of the A. G. A. Refrigeration Safety Code Committee.

A. M. Apmann, of the Consolidated Gas Company of N. Y., and chairman, subcommittee on House Heating Specifications, presented house heating, and he also discussed the topic of large volume water heating.

Methods of cooperation between the master plumbers and gas companies were discussed and the advantages of closer cooperation explained.

The laboratory demonstrations on house heating and water heating elicited great interest. The use of thermostatic pilots, low water cut-offs, steam pressure regulators, and the other safety devices were explained in great detail. The appliances on exhibit by the Association were installed through the courtesy of the Northern Union and Consolidated Gas Company of New York. They consisted of a boiler connected up for indirect hot water supply with a heater and storage tank, a boiler without jacket and gas connections, showing the various features of control and design, a storage system delivering hot water, a gas-fired refrigerator, a combination gas refrigerator and gas range, and gas refrigerating unit, all of these latter in operation. In addition to these appliances, the installation of a coal-fired boiler twinned with a gas-fired water heater and a heater for heating hot water during the months when the gas hot water heater is not operating, were shown.

The exhibit was in charge of Mr. Apmann and Mr. Rathemacher.

Three Medals Offered

(Continued from page 171)

rendered assistance in the resuscitation.

In the event of an employee having performed two successful resuscitations in accordance with the regulations of award, there is awarded to that employee an engraved bar, attached to the original medal.

BEAL MEDAL

The Beal Medal, donated by the Beal family, is the most highly prized technical award in the industry. A competition to stimulate interest in this medal was announced in the January issue of the MONTHLY. All members of the Natural Gas Department, being eligible for the Medal, are requested to familiarize themselves with the rules of this competition.

Predetermining Fire Insurance Rate for New Construction

(Continued from page 178)

Name	*Address*	*Territory Controlled*
Louisiana Rating & Fire Prevention Bureau R. P. Strong, Secy.	New Orleans, La. Hibernia Bank Bldg.	State of Louisiana
Texas Fire Insurance Commission	Austin, Texas	State of Texas
Washington Surveying & Rating Bureau J. K. Woolley, Mgr.	Seattle, Wash. Alaska Bldg.	State of Washington
Oregon Insurance Rating Bureau Jas. N. McCune, Prop.	Portland, Oregon P. O. Box 745	State of Oregon
Idaho Surveying & Rating Bureau J. H. Branscomb, Mgr.	Boise, Idaho	State of Idaho
Board of Fire Underwriters of the Pacific H. R. Badger, Secy.	San Francisco, Cal. Merchants Exch. Bldg.	Alaska, California, Montana, Nevada, Utah
Arizona Equitable Rating Office M. R. Colwell, Chief surveyor	Phoenix, Ariz. Heard Bldg.	State of Arizona
Arkansas Fire Prevention Bureau T. F. Baker, Mgr.	Little Rock, Ark. Hall Building	State of Arkansas
Mountain States Inspection Bureau L. H. Simonton, Mgr.	Denver, Colo. Gas & Electric Bldg.	Colorado, New Mexico and Wyoming
Chicago Board of Underwriters Ernest Palmer, Mgr.	Chicago, Ill. Insurance Exchange Bldg.	Cook County, Ill.
Illinois Inspection Bureau F. H. Jones, Publisher	Chicago, Ill. 108 E. Ohio St.	Illinois outside of Cook County
Indiana Inspection Bureau E. M. Sellers, Mgr.	Indianapolis, Ind. Chamber of Commerce Bldg.	State of Indiana
Iowa Insurance Service Bureau K. L. Walling, Publisher	Des Moines, Iowa Insurance Exchange Bldg.	State of Iowa
Kansas Inspection Bureau W. C. Hodges, Mgr.	Topeka, Kansas 701 Jackson St.	State of Kansas
Kentucky Actuarial Bureau G. H. Parker, Mgr.	Louisville, Ky. Speed Bldg.	State of Kentucky
Michigan Inspection Bureau O. M. Henn, Mgr.	Detroit, Mich. Cadillac Square Bldg.	State of Michigan
Missouri Inspection Bureau Waterworth and Terry, Mgrs.	St. Louis, Mo. Pierce Bldg.	State of Missouri
General Inspection Bureau W. T. Fisher, Mgr.	Minneapolis, Minn. Plymouth Bldg.	Minnesota, N. Dakota and S. Dakota
Nebraska Inspection Bureau Frank Stanbery, Publisher	Omaha, Nebr. Standard Oil Bldg.	State of Nebraska
Ohio Inspection Bureau West Virginia Inspection Bureau T. B. Sellers, Mgr.	Columbus, Ohio Hartman Bldg.	Ohio and West Virginia
Oklahoma Inspection Bureau C. T. Ingalls, Mgr.	Oklahoma City, Okla. Mercantile Bldg.	State of Oklahoma
Tennessee Inspection Bureau F. B. Quackenboss, Mgr.	Nashville, Tenn. Stahlman Bldg.	State of Tennessee
Wisconsin Inspection Bureau G. E. Nichols, Mgr.	Milwaukee, Wis. 490 Broadway	State of Wisconsin

TECHNICAL SECTION
WALTER C. BECKJORD, Chairman HARRY E. BATES, Vice-Chairman
H. W. HARTMAN, Secretary

Eliminating Bloating in Determination of Coal Ash Fusion Points

By SANDFORD S. COLE
The Koppers Co., Pittsburgh, Pa.

S. S. Cole

IN the determination of the softening temperature of coal ash an alteration in the structure of the cone often occurs which is termed as bloating. This action is well known in fuel laboratories which are testing coals and it gives considerable difficulty in determining the softening temperature. The softening temperature, as determined, is the temperature at which a cone of the ash has fused down to a spherical lump. As may be seen, if the cone bloats and forms a mass twice the size of the original cone, it is quite difficult to determine accurately the softening temperature.

According to the standard method as set forth by American Society for Testing Materials, the coal is first burned to ash at a temperature of 800-900° C., then ground to pass a 200-mesh sieve and finally ignited at 800-850° C. in the presence of oxygen. Unless special pyrometric equipment is provided for this portion of the test, it is quite difficult to determine accurately the temperature. In this laboratory, certain coal ash which were prepared without temperature control and which bloated excessively were burned off a third time at 800, 850, 900, 950, and 1000° C. and the softening temperature determined along with a cone of the original ash. It was found that the ash burned off above 850° C. did not bloat. This was confirmed by using the original coal and burning to ash at a temperature above 850° C. Bloating did not occur in this case. The cause of bloating was apparently too low a furnace temperature in preparing the ash.

In order to be assured definitely that the temperature in the initial burn was above 850° C. and to do this without extensive equipment and labor, this laboratory has employed the Orton pyrometric cones for temperature indicators. A definite record of the temperature of burning to ash is thereby obtained simply and economically. The rheostat for the electric furnace can be set so that approximately the desired temperature can be reached and the cones serve as a check. The cones used have been Orton cone 010, 011 and 012 as supplied by the Standard Pyrometric Cone Company, Columbus, Ohio. These are cut off to 1½ inch length and mounted in a plaque of fire clay and grog.

A cone plaque is placed in the furnace for the first burning to ash. When the furnace has cooled down, examination of the cones will show if the temperature of the furnace has been high enough. This laboratory has found that when Orton cone "011" has touched down, the ash has been burned to a sufficiently high temperature. The bloating of coal ash which has been burned off at cone "011," or about 875° C., is now very uncommon and this has evidently been eliminated by higher burning temperatures.

THE United Gas Improvement Company has arranged to sell its holdings in the Savannah Gas Company and the St. Augustine (Fla.) Gas Company to the American Commonwealth Power Corp.

Transmission in Germany

(Continued from page 146)

of the producer of the other products. The independence of the cities in one of their most commercial branches would be taken from them.

5. Lowering of the gas production costs through new discoveries will only become useful for the gas consumer if the cities have some control in the production of the gas, rather than merely in its distribution.

These considerations, leading to the conclusion opposed to the central gas delivery from the Ruhr region, accompanied at the same time by complete cessation of the gas production in the cities, induces these most serious considerations because the necessary safety in transmission cannot be assured, and because a danger will ensue from the monopolizing of the entire heating business. These considerations are still to be evaluated as more important than the possible lowering in the gas rates, which at the present moment is not even certain. Consolidation of gas companies, however, is to be urged. This offers the necessary safety and the opportunity that the united commercial activity will react to the advantage of the general public.

Distribution Men to Meet

(Continued from page 143)

be made to cover briefly all that has been accomplished on this very important subject.

There will be an Open Forum, a feature which has always proved a popular one and members are urged to bring up their problems for discussion.

Arrangements have also been made for a brief progress report and the results of the research in mixed gases at the A. G. A. Laboratory. Saturday morning will be devoted to an inspection trip to the Gary plant of the National Tube Company.

Early in March a letter will be forwarded to company members including manufacturer company members interested in distribution work which will outline fully the program for the Conference, hotel rates, etc. From present indications there will be a larger attendance than ever at the Hotel Stevens, Chicago, Ill., on April 12-13.

New York Company Awards Meritorious Service Medals

TWENTY-SIX employees of the Consolidated Gas Company of New York and affiliated gas and electric companies have received the first award made of those combined companies' Meritorious Service Medals.

Two men were each awarded a silver medal for saving lives at great personal hazard to themselves—John Harry Cherdron of the New York and Queens Electric Light and Power Company, and Henry Charles Lang of the Northern Union Gas Company. Eugene A. Butler, of the New York and Queens Gas Company, was awarded a bronze medal for saving a life in his line of duty. Twenty-one medals were awarded to employees who had saved lives during 1926; three received medals in connection with the potential saving of life and prevention of damage to or loss of property; one for the prevention of damage to or loss of property, and one was awarded a medal for a contribution he made to the design, construction, operation, and maintenance resulting in an improvement of electric service. Louis Melone, an employee of the Westchester Lighting Company, lost his life in July, 1926, when he succumbed to flames and smoke in an effort to save fellow workmen and property in the Yonkers plant. Bronze medals were presented to: Anthony Ferrara, the Bronx Gas and Electric Company; Gustave Garfield Brown, John Francis Cempa, Charles Koehler, William Price, Alexander Moore, William Morgan Schubel, Joseph Michael Rapp, Paul Schram and William Thomas Wilton, Consolidated Gas Company of New York; Joseph Leyh, Josef Randolph Natterer, Jr., and Angelo Passero, New Amsterdam Gas Company; William Anthony Breen, Allen Danforth Pettee and Alfred Henry Wielt, the New York Edison Company; Eugene Aloysius Butler, New York and Queens Gas Company; John Michael Murphy, the Standard Gas Light Company of the City of New York; Edward Gerard Gallagher, Charles Francis Geissler and Louis James Marotta, the United Electric Light and Power Company; Edward Ellsworth Lewis, Westchester Lighting Company; John Charles Baker and Benjamin Bernard Townson, the Yonkers Electric Light and Power Company.

Our New Members

(Continued from page 170)

Derge, Julius F., 1049 Ingraham Bldg., Miami, Fla.

Hunter, William M., Public Service Electric & Gas Co., 80 Park Place, Newark, N. J.

Superty, Peter S., Sr., The Brooklyn Union Gas Co., 1034 Flatbush Ave., Brooklyn, N. Y.

Brennan, Frank J., The Brooklyn Union Gas Co., 86—08 Queens Blvd., Elmhurst, L. I., N. Y.

Campbell, R. W., Jones & Laughlin Steel Corp., Pittsburgh, Pa.

Fite, Charles S., Public Service Elec. & Gas Co., 1083 Broad St., Newark, N. J.

Eason, Nigel H., N. Y. & Queens Gas Co., 114 Amity St., Flushing, N. Y

Thompson, R. M., G. S. Blodgett Co., Inc., 53 Maple St., Burlington, Vt.

Locke, Chas. R., Chicago By-Product Coke Co., 3500 Crawford Ave., Chicago, Ill.

Garrabrants, Robert E., The Gas Appliance Exchange, Inc., 799-803 Maice St., Bridgeport, Conn.

Scott, Arthur Curtis, The Dallas Gas Co., 2016 Jackson St., Dallas, Tex.

Anderson, Nils, Debevoise-Anderson Co., Inc., 114 Liberty St., New York, N. Y.

Wilcoxson, Leslie S., The Babcock & Wilcox Co., 85 Liberty St., New York, N. Y.

Livingstone, Edward A., A. O. Smith Corp., 508 Mid-Continent Bldg., Tulsa, Okla.

Loyd, Albert E., The P. H. & F. M. Roots Co., 120 Liberty St., NewYork, N. Y.

Thatcher, Welling F., Servel Inc., 51 East 42nd St., New York, N. Y.

Hinckley, Elsie E., Tappan Stove Co., Mansfield, O.

Clanton, D. W., Davis Emergency Equipment Co., 1328 Candler Bldg., Atlanta, Ga.

Stevens, Frederic N., 4618 Lake Park Ave., Chicago, Ill.

Erwin, James H., Central Public Service Corp., 209 So. La Salle St., Chicago, Ill.

Ayling, Horace J., New Haven Gas Light Co., 70 Crown St., New Haven, Conn.

Kraft, Richard P., New Haven Gas Light Co., New Haven, Conn.

Pfeiffer, Milton J., Union Gas & Electric Co., Cincinnati, O.

Daniels, Ralph E., Eastern Service Co., 250 Stuart St., Boston, Mass.

Duaei, Alexander J., Johns-Manville Corp., 1737 S. Michigan Ave., Chicago, Ill.

Sutherland, David B., Russell Engineering Co., 1624 Railway Exchange Bldg., St. Louis, Mo.

Morton, Oscar W., City Gas Co. of Norfolk, Va.

Gaustad, Martyne, Panama Colon Gas Company, P. O. Box 80, Colon, Rep. of Panama.

Gilbert, J. C., Southern Counties Gas Co., P. O. Box 185, Santa Monica, Calif.

Kelly, Frank S., Jr., Arkansas Natural Gas Co., 1205 Hazel St., Texarkana, Texas.

Skach, Herbert S., American Radiator Co., E. 146th & Exeter Sts., Bronx, N. Y.

Scott, Hamilton G., Fidelity Public Service Co., 57 William St., New York, N. Y.

Greeley, Loyal L., Milwaukee Gas Light Co., 182 E. Wisconsin Ave., Milwaukee, Wis.

Judd, Harry Lee, Public Service Co. of Northern Illinois, 72 West Adams St., Chicago, Ill.

Gerski, John F., Peoples Gas Light & Coke Co., 122 S. Michigan Ave., Chicago, Ill.

Schweizer, Frank J., Peoples Gas Light & Coke Co., 122 S. Michigan Ave., Chicago, Ill.

Walsh, John P., Peoples Gas Light & Coke Co., 122 S. Michigan Ave., Chicago, Ill.

Moore, Wm. A., Spokane Gas & Fuel Co., E. 604 Montgomery Ave., Spokane, Wash.

Badger, E. L., E. 614-18th Ave., Spokane, Wash.

Fyfe, Wm. R., 1708 W. Gardner Ave., Spokane, Wash.

Kennedy, Willard, 522 E. Bridgeport St., Spokane, Wash.

Kenney, Clayton D., 1728 W. Mallon Ave., Spokane, Wash.

Mason, David A., W. 2305 Broadway Ave., Spokane, Wash.

Becker, Joseph, The Koppers Construction Co., Union Trust Bldg., Pittsburgh, Pa.

Eggleston, Edward Richard, Koppers Construction Co., Union Trust Bldg., Pittsburgh, Pa.

Bauer, Ralph G., 46 South Bryant Ave., Belleveu, Pa.

Meaham, John, Central Hudson Gas & Electric Corp., 50 Market St., Poughkeepsie, N. Y.

Springer, Clinto A., 7 Olympia Place, Squirrel Hill Sta., Pittsburgh, Pa.

Kenney, T. A., Hodenpyl Hardy & Co., 14 Wall St., New York, N. Y.

Williams, L. R., Southwestern Gas & Electric Co., Shreveport, La.

Brosius, William O., 1513 Hillsdale Ave., So. Hills Branch, Pittsburgh, Pa.

Hammond, H. D., Public Service Co. of Nor. Ill., 72 W. Adams St., Chicago, Ill.

Lemons, W. H., Illinois Power Co., Springfield, Ill.

Weeks, Harold P., United Light & Power Eng. & Const. Co., United Light Bldg., Davenport, Ia.

Winans, Raymond G., Columbia Eng. & Mgt. Corp., 61 Broadway, New York, N. Y.

Hofford, W. J., Penna. Gas & Electric Corp., 120 Broadway, New York, N. Y.

Cuddy, Edward J., Peoples Gas Light & Coke Co., 122 S. Michigan Ave., Chicago, Ill.

Connors, Ora Lillian, Peoples Gas Light & Coke Co., 122 S. Michigan Ave., Chicago, Ill.

Crose, Henry B., The Peoples Gas Light & Coke Co., 122 S. Michigan Ave., Chicago, Ill.

Carroll, Arthur H., Peoples Gas Light & Coke Co., 45-49 Pershing Road, Chicago, Ill.

Carnes, Frank S., Peoples Gas Light & Coke Co., 38 West 64th St., Chicago, Ill.

Carlstone, Arthur E., Peoples Gas Light & Coke Co., Chicago, Ill.

Burr, Richard R., Peoples Gas Light & Coke Co., 122 S. Michigan Ave., Chicago, Ill.

Burns, George D., Peoples Gas Light & Coke Co., 45 E. Pershing Rd., Chicago, Ill.

Brodie, Frank P., Peoples Gas Light & Coke Co., 122 S. Michigan Ave., Chicago, Ill.

Bruck, Peter G., Peoples Gas Light & Coke Co., 122 S. Michigan Ave., Chicago, Ill.

Brown, Harold L., Peoples Gas Light & Coke Co., 122 S. Michigan Ave., Chicago, Ill.

Brooksbank, Sue M., Peoples Light & Coke Co., 122 S. Michigan Ave., Chicago, Ill.

Brooksbank, Henry A., Peoples Gas Light & Coke Co., 122 S. Michigan Ave., Chicago, Ill.

Bromley, John F., Peoples Gas Light & Coke Co., 3939 Lowell Ave., Chicago, Ill.

Broderick, Frank J., Peoples Gas Light & Coke Co., 1811 Peoples Gas Bldg., Chicago, Ill.

Bowen, Oscar A., Peoples Gas Light & Coke Co., 122 S. Michigan Ave., Chicago, Ill.

Bouchier, James J., Peoples Gas Light & Coke Co., 122 S. Michigan Ave., Chicago, Ill.

Booth, Katherine A. Mrs., Peoples Gas Light & Coke Co., 122 S. Michigan Ave., Chicago, Ill.

Bjork, Eskil I., 4856 N. Irving Ave., Chicago, Ill.

Bell, Dennis Rogers, Peoples Gas Light & Coke Co., 122 S. Michigan Blvd., Chicago, Ill.

Beaumont, Ernest S., Peoples Gas Light & Coke Co., 122 S. Michigan Ave., Chicago, Ill.

Becker, Arthur E., Peoples Gas Light & Coke Co., 122 S. Michigan Ave., Chicago, Ill.

Barrett, Stuart J., Peoples Gas Light & Coke Co., 122 S. Michigan Ave., Chicago, Ill.

Avery, Roger Locke, Peoples Gas Light & Coke Co., 122 S. Michigan Ave., Chicago, Ill.

Anderson, Harry, Peoples Gas Light & Coke Co., 122 S. Michigan Ave., Chicago, Ill.

Deckman, F. H., Columbia Engrg. & Mgmt. Corp., 99 No. Front St., Columbus, Ohio.

Jeffries, Ernest, 2007 Hampton Ave., Swissvale, Pa.

Harman, Henry, Milwaukee Gas Light Co., 182 E. Wisconsin Ave., Milwaukee, Wis.

O'Neill, Arthur D., 8114 Kenwood Ave., Chicago, Ill.

Eck, Lester John, Minneapolis Gas Light Co., Minneapolis, Minn.

Hoyer, Arthur, Manila Gas Corp., P. O. Box 1206, Manila, P. I.

Huff, J. B., Jr., Dixie Gulf Gas Co., Houston, Texas.

Sheppard, George B., Houston Gas & Fuel Co., Houston, Texas.

Leith, Lawrence P., Galveston Gas Co., Galveston, Texas.

MacCannon, Bruce Theo., 1666 Madison St., Denver, Colo.

McIntyre, Andrew, Public Service Co. of Northern Illinois, 72 W. Adams St., Chicago, Ill.

Rincliffe, Roy George, Philadelphia Suburban Counties Gas & Elec. Co., Tilghman St. Works, Chester, Pa.

Preston, Grace R. (Miss), Eriez Stove & Mfg. Co., 1119 W. 18th St., Erie, Pa.

Lloyd, Edward C., Armstrong Cork & Insulation Co., 24th St. & Allegheny River, Pittsburg, Pa.

Herske, Arthur R., Heating Contractors Ass'n, 408 Chester 12th Bldg., Cleveland, Ohio.

Spreng, W. J., Hartman-Spreng Co., Mansfield, Ohio.

Ridley, Thomas P., Newcastle-upon-Tyne & Gateshead Gas Co., 33 Grainger W., Newcastle-upon-Tyne, England.

Forbes, A. L., Jr., Southwest Gas Co., 614 Keystone Bldg., Houston, Texas.

Colvin, J. W., Southwest Gas Co., 614 Keystone Bldg., Houston, Texas.

Colvin, Geo. E., Southwest Gas Company, 614 Keystone Bldg., Houston, Texas.

Gurley, Robert E., 801 Bower Ave., Houston, Texas.

Berg, Oscar E., A. O. Smith Corp., 1245-12th St., Milwaukee, Wis.

Fairbrother, H. W., Houston Nat. Gas Co., Houston, Texas.

Brown, Clifford John, Houston Pipe Line Co., Houston, Texas.

E. N. Armstrong, U. S. Bureau of Mines, Ft. Worth, Texas.

Stollenmeyer, E. N., Forest City-Walworth Run Foundries Co., 2540 W. 27th St., Cleveland, Ohio.

Barrows, W. A., 3rd. Barrows & Co., Inc., 1519 Bankers Trust Bldg., Philadelphia, Pa.

Edgar, Harry Thomas, 49 Federal St., Boston, Mass.

Fiske, Kenneth B., Roberts Portable Oven Co., 853 W. North Ave., Chicago, Ill.

Braun, L. T., Chicago Master Steam Fitters' Ass'n, 228 N. La Salle St., Chicago, Ill.

Cecil, William E., Illinois Power & Light Corp., Belleville, Ill.

Taylor, Robert S., Electrolux Servel Corp., 408 E. 111th St., New York, N. Y.

Russell, Carlton W., Binghampton Gas Works, Binghampton, N. Y.

Haroldson, Harry G., Commonwealth Power Corp., Jackson, Michigan.

Smallwood, D. W., 1333 West Jefferson St., Fort Wayne, Ind.

Kohlmeyer, Karl H., Western Gas Construction Co., Fort Wayne, Ind.

Schmieman, Oscar G., The Western Gas Construction Co., Fort Wayne, Ind.

Steinfort, C. E., Illinois Public Utility Co., Lincoln, Ill.

Reilly, Charles J., Hammer Bray Co., Oakland, Calif.

Bromfield, St. Clair, Burroughs Adding Machine Co., 1 Park Ave., New York, N. Y.

Nowinski, David, Jr., Consolidated Gas Co., 408 E. 111th St., New York, N. Y.

Mooney, Herbert F., Public Service Electric & Gas Co., 277 N. Broad St., Elizabeth, N. J.

MacQuarrie, Samuel T., New England Bureau of Public Service Information, 24 Milk St., Boston, Mass.

Hammett, Fred, Merco Nordstrom Valve Co., 347 Peoples Gas Bldg., Chicago, Ill.

Seidenglanz, C. H., Rio Grande Valley Gas Appl. Co., Inc., 956 Elizabeth St., Brownsville, Texas.

Wheatley, J. H., Eriez Stove & Mfg. Co. of Canada Ltd., 100 Ottawa St., Montreal, Can.

Williamson, Harvey, Cole Petroleum Co., Bruni, Texas.

Cole, C. R., Cole Petroleum Co., Laredo, Texas.

Associations Affiliated with A. G. A.

Canadian Gas Association
Pres.—P. V. Byrnes, United Gas & Fuel Co., Hamilton, Ont.
Sec.-Tr.—G. W. Allen, 7 Astley Avenue, Toronto.
Conv., Hamilton, Ont., June 21 and 22, 1928.

Empire State Gas and Electric Association
Pres.—H. O. Palmer, Empire Gas & Electric Co., Geneva, N. Y.
Chairman Gas Section—O. H. Smith, Consolidated Gas Co. of New York, New York, N. Y.
Sec.—C. H. B. Chapin, Grand Central Terminal, New York, N. Y.
Conv., Upper Saranac, N. Y., Oct. 1 and 2, 1928.

Illinois Gas Association
Pres.—P. D. Warren, The Peoples Gas Light & Coke Co., Chicago, Ill.
Sec.-Tr.—R. V. Prather, 305 Illinois Mine Workers Bldg., Springfield, Ill.
Conv., Springfield, Ill., March 14 and 15, 1928.

Indiana Gas Association
Pres.—I. C. Shepard, Southern Indiana Gas & Elec. Co., Evansville, Ind.
Sec.-Tr.—F. B. Tracy, Central Indiana Gas Co., Muncie, Ind.
Conv., 1928.

Michigan Gas Association
Pres.—F. W. Steere, Semet-Solvay Co., New York, N. Y.
Sec.-Tr.—A. G. Schroeder, Grand Rapids Gas Light Co., Grand Rapids, Mich.
Conv., Grand Hotel, Mackinac Island, Mich., July 5 to 7, 1928.

Mid West Gas Association
Pres.—C. A. Nash, United Light & Railway Co., Davenport, Iowa.
Sec.-Tr.—A. W. Schmidt, Des Moines Gas Co., Des Moines, Iowa.
Conv., Cornhusker Hotel, Lincoln, Nebr., April 18-20, 1928.

Missouri Association of Public Utilities
Pres.—W. H. Henby, St. Louis County Water Co., St. Louis, Mo.
Sec.-Tr.—F. D. Beardslee, 315 N. 12th St., St. Louis, Mo.
Conv., Jefferson City, Mo., April 26, 27 and 28, 1928.

New England Gas Association
Pres.—William Gould, Gas and Electric Improvement Co., Boston, Mass.
Secretary—E. A. Taylor, 100 Weybosset St., Providence, R. I.
Chairman Operating Div.—A. H. Scott, New Britain Gas Light Co., New Britain, Conn.
Secretary Operating Div.—R. L. Knowlton, Providence Gas Co., Providence, R. I.
Pres. Sales Div.—M. B. Webber, Marlboro-Hudson Gas Co., Boston, Mass.
Sec.-Tr.—Sales Div.—J. H. Sumner, 719 Massachusetts Ave., Cambridge, Mass.
Pres. Industrial Div.—E. W. Berchtold, Boston Con. Gas Co., Boston, Mass.
Sec.-Tr. Industrial Div.—L. E. Wagner, Providence Gas Co., Providence, R. I.
Chairman Acctg. Div.—W. A. Doering, Boston Con. Gas Co., Boston, Mass.
Sec.-Treas. Acctg. Div.—Otto Price, Boston Con. Gas Co., Boston, Mass.
Conv., 1929.

New Jersey Gas Association
Pres.—J. L. Conover, Public Service Electric & Gas Co., Newark, N. J.
Sec.-Tr.—Louis Stoecker, Public Service Electric & Gas Co., Newark, N. J.
Conv., 1928.

Ohio Gas and Oil Men's Association
Pres.—J. J. McMahon, The East Ohio Gas Co., Cleveland, O.
Sec.-Treas.—Wm. H. Thompson, 811 First National Bank Bldg., Columbus, O.
Conv., 1928.

Oklahoma Utilities Association
Pres.—E. R. Ernsberger, Southwestern Light & Power Co., Oklahoma City, Okla.
Mgr.—E. F. McKay, Oklahoma City, Okla.
Conv., Tulsa, Okla., March 13-15, 1928.

Pacific Coast Gas Association
Pres.—L. M. Klauber, San Diego Consolidated Gas & Electric Co., San Diego, Calif.
Exec. Sec.—Clifford Johnstone, 447 Sutter St., San Francisco, Calif.
Conv., Coronado, Calif., Sept. 17-21, 1928.

Pennsylvania Gas Association
Pres.—J. A. Weiser, Peoples Light Co., Pittston, Pa.
Sec.-Tr.—Geo. L. Cullen, Harrisburg Gas Co., Harrisburg, Pa.
Conv., Yorktowne Hotel, York, Pa., April 10 & 11, 1928.

Southern Gas Association
Pres.—P. S. Arkwright, Georgia Power Co., Atlanta, Ga.
Sec.-Tr.—J. P. Connolly, 141 Meeting St., Charleston, S. C.
Conv., Jacksonville, Fla., April 17-19, 1928.

Southwestern Public Service Association
Pres.—M. T. Walker, Southwestern G. & E. Co., Shreveport, La.
Chairman Gas Section—C. M. Thompson, Texas Power & Light Co., Waco, Texas.
Sec.—E. N. Willis, 403 Slaughter Bldg., Dallas, Texas.
Conv., Dallas, Texas, May 2 to 5, 1928.

Wisconsin Utilities Association
Pres.—John St. John, Madison Gas & Electric Co., Madison, Wis.
Exec.-Sec.—J. N. Cadby, 432 Broadway, Milwaukee, Wis.
Conv., 1928.

Geographic Divisions

Eastern States Gas Conference
Pres.—H. H. Newman, Public Service Electric & Gas Co., Trenton, N. J.
Sec.-Tr.—J. C. Smith, Consumers Gas Co., Reading, Pa.
Conv., Newark, N. J., April 4 and 5, 1928.

Tenth Annual Convention of the American Gas Association
Atlantic City, N. J. **October 8-12, 1928**

Annual Convention of the Natural Gas Department
Dallas, Texas **May 7-10, 1928**

Employment Bureau

(Address All Communications to Key Number)

SERVICES REQUIRED

SALESMEN—Well-known manufacturer of water heaters is in need of local representatives in several cities. The type of man wanted should be about 30 to 35 years of age, well educated, healthy, good business experience including direction of other employees. Reply, giving full qualifications, present connection and salary. Treated in confidence. Inclose photo if available. Address A. G. A.
Key No. 0107.

WANTED—Works Foreman. One that can get results and capable of handling men. Send out 150,000 daily. First class location. The plant and mains in good condition. State salary and experience in first letter. Address A. G. A.
Key No. 0110.

GAS RANGES SALESMAN to represent a Trade Mark Line of Gas Ranges and Broilers—both Domestic and Hotel Lines. One experienced and having some acquaintance with West Shore Gas Companies in Illinois and Wisconsin preferred. Address A. G. A.
Key No. 0111.

GAS SALES ENGINEER—Experienced in house heating. State in detail experience, age and salary desired. Address A. G. A.
Key No. 0112.

WANTED—Live wire organization preferably, or an established individual to represent manufacturer of a new type—nationally advertised water heater. Full cooperation and generous commissions paid. Water heater is now completed and selling fast. Address A. G. A.
Key No. 0113.

PUBLIC UTILITY MEN—Due to rapid expansion, a large holding company with principal Accounting offices located in Central New York State has various desirable positions open. Public Utility Accounting experience essential. Applications must state age, experience, salary desired and when available. All applications will be treated in strictest confidence. Address A. G. A.
Key No. 0114.

SERVICES OFFERED

COMMERCIAL OR SALES DEPARTMENT MANAGER. 15 years' experience in new business department and appliance sales activities and management, with gas and electric companies. 3 years purchasing department manager. Technical University graduate. Desires connection with large company as commercial or merchandising manager, or to supervise commercial activities for a group of properties. Service available on short notice. References include present employer. Address A. G. A.
Key No. 230.

COMMERCIAL OR SALES MANAGER with fine record of achievement, available for northern location near future. Responsible for one of the outstanding gas properties of 1925. Capable organization and operation of complete commercial department including sales, advertising and publicity and public relations. Vitally interested in heating and refrigeration load. Contract on salary and commission basis. Southern climate unsuitable reason for change. Address A. G. A.
Key No. 236.

CHEMICAL ENGINEERS—1½ years' experience as Chemist at Gas Works. 2 years as Research Chemist for solid fuels and oils. Desires a position as Research Chemist or Development Engineer. A-1 references. Address A. G. A.
Key No. 238.

WISH POSITION with company that has need for a man of my qualifications and training. Nine years' experience in the gas industry having been a cadet engineer and plant foreman in large company and for the last four years manager of small property; can operate water gas sets with either hard or soft coal; thoroughly familiar with both high and low pressure distribution, technical graduate, 37 years old, married. Address A. G. A.
Key No. 240.

SPECIAL UTILITY ENGINEER—Revamping, construction or development work; with large operation or holding company preferred. Age 45. Experience 27 years as superintendent, engineer and manager of moderate growing systems; Koppers coke plants and waning natural gas. All kinds distribution. Also combustion specialties business. Would consider short term Foreign commission. Address A. G. A.
Key No. 242.

POSITION WANTED—as Superintendent or General Foreman of artificial gas plant. Eighteen years experience in manufacture and distribution, high and low pressure systems. Address A. G. A.
Key No. 243.

ASSISTANT TO EXECUTIVE: Married, 37 years old, secretary to well-known executive in New England Company, wishes similar position in medium size company. Anywhere. Best of references. Reason for change, reorganization of management. Address A. G. A.
Key No. 245.

AGGRESSIVE MANAGER or General Superintendent, 25 years in the industry, familiar with all branches of operation and construction. Best of references. Available about March 1, 1928. Address A. G. A.
Key No. 246.

WANTED—Position as manager of small progressive gas company in a growing community by technical graduate, 36 years old. Married. Twelve years' experience including water gas plant construction and operation, High- and Low-Pressure Distribution, including Meters and Regulators. Special emphasis on Public Relations work. Address A. G. A.
Key No. 249.

GAS DISTRIBUTION FOREMAN desires to change his position. Experienced in laying mains and services on both high- and low-pressure, good man on governors, can weld pipe. Also considered a first-class fitter on automatic, storage, tank water heaters, house heating systems, and other appliances. Will start as fitter or welder if there is chance for advancement. Address A. G. A.
Key No. 250.

POSITION WANTED as superintendent of distribution or manager of small property. Seven years' experience is distribution both high- and low-pressure systems. In charge of shop department and meter repair shop for four years. Address A. G. A.
Key No. 251.

SUPERINTENDENT of large gas works in East desires to make change. Prefers similar position under more pleasant surroundings, or general supervision over a number of small plants. Address A. G. A.
Key No. 252.

OPEN FOR SALES position with manufacturer or gas company on automatic water heaters or gas fired boilers (or both). Gas fired boiler proposition with manufacturer preferred. 16 years' experience with high class references. Large gas company acquaintance east of Chicago. Road experience. Address A. G. A.
Key No. 253.

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AMERICAN GAS ASSOCIATION, INC.

HEADQUARTERS: 420 LEXINGTON AVE., NEW YORK, N. Y.

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Vice-Chairman	J. M. BENNETT	Philadelphia, Pa.
Secretary	C. W. PERSON	Ass'n Headqtrs.
TECHNICAL—Chairman	W. C. BECKJORD	New York, N. Y.
Vice-Chairman	H. E. BATES	Chicago, Ill.
Secretary	H. W. HARTMAN	Ass'n Headqtrs.

MANAGING DIRECTOR	ALEXANDER FORWARD	Ass'n Headqtrs.
ASSISTANT MANAGER	H. W. HARTMAN	Ass'n Headqtrs.
SECRETARY	K. R. BOYES	Ass'n Headqtrs.